

C. HOWARD.

Breech-Loading Fire-Arm.

No. 50,358.

Patented Oct. 10, 1865.

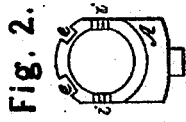


Fig. 2.

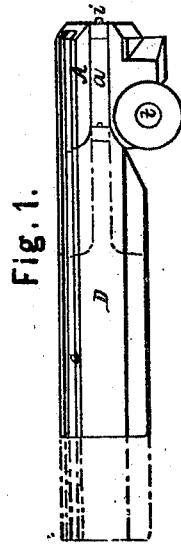


Fig. 1.

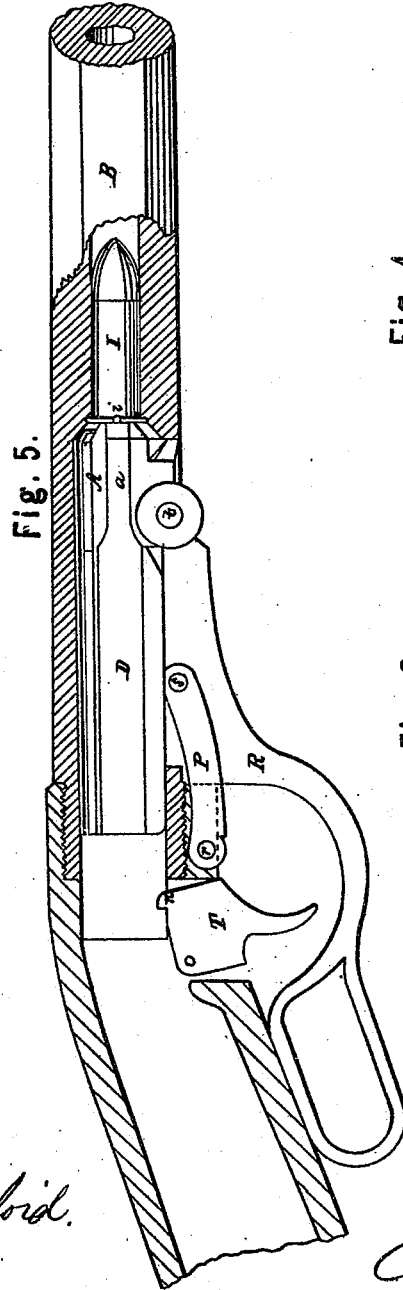


Fig. 5.

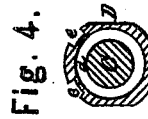


Fig. 4.

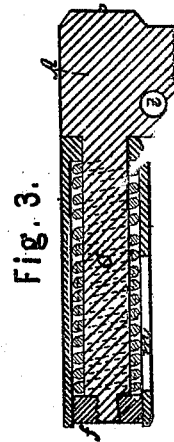


Fig. 3.

Witnesses.

*Rufus W. Sanford.  
 H. B. Jones.*

Inventor.

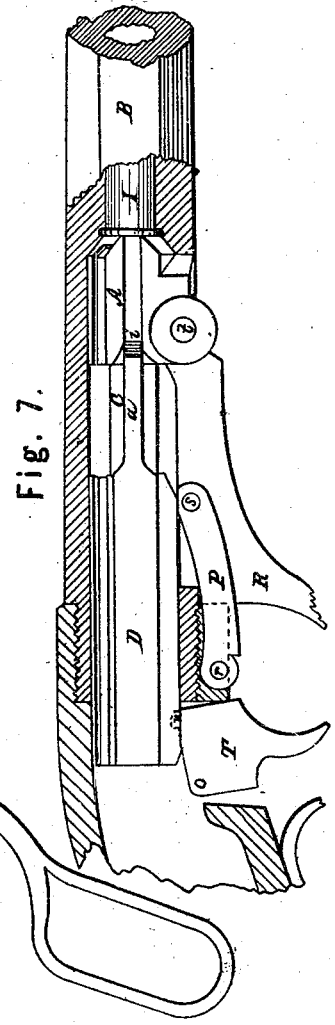
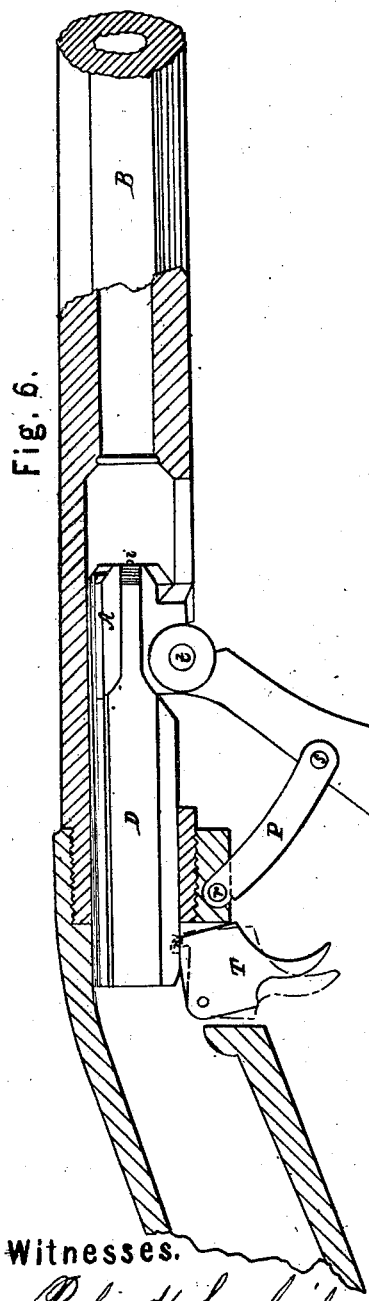
*Charles Howard  
 John C. East*

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Witnesses.  
*Julius H. Stanford.*  
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# UNITED STATES PATENT OFFICE.

CHARLES HOWARD, OF NEW YORK, N. Y.

## IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 50,358, dated October 10, 1865.

*To all whom it may concern:*

Be it known that I, CHARLES HOWARD, of New York city, in the county of New York and State of New York, have invented a new and useful Improvement in Locks for Fire-Arms; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view; Fig. 2, a front end view; Fig. 3, a longitudinal central section; Fig. 4, a transverse section on line X Y; Figs. 5, 6, and 7, the application of my lock to fire-arms.

Similar letters in the several figures indicate corresponding parts.

My invention relates to an improvement in the construction of locks for breech-loading fire-arms designed for the use of metallic cartridges whereby the hammer and breech-pin are concealed within the frame of the arm and move to or from the barrel, axially therewith, by the action of the trigger-guard, arranged so as to remove the breech-pin from the barrel for the purpose of loading, which movement places the hammer at full-cock, and returning the breech-pin to its seat leaves the hammer at full-cock for the purpose of discharging the cartridge placed in the barrel while the breech was open.

To enable others skilled in the art to construct and use my improved lock, I will proceed to fully describe the same as illustrated in the accompanying drawings.

My improved lock is of a cylindrical form, as seen in Fig. 4, and is designed to be fitted within the barrel or frame of the arm, so as to move axially with the bore of the barrel and the front end of the breech-pin to close the rear end of the bore and act as recoil-block of the cartridge placed within the bore.

A is the breech-pin, constructed with a spindle, C, on its rear end, over which the hammer D is placed, sufficient space being left between the two for a strong coil-spring, *d*, as seen in Figs. 2, 3, and 4, the spring operating to press the cylindrical hammer forward and against the breech-pin A. A nut, *f*, on the rear end of the spindle C, bears upon the spring for that

purpose. On each side of the breech-pin an arm, *a*, from the cylindrical hammer D extends forward and terminates in a lip, *i*, (see Figs. 1 and 2,) so that the breech-pin A remaining firm, the hammer D, with its arms *a*, may be drawn back, as denoted in red, Fig. 1, which would compress the spring within the hammer against the nut *f*, so that when the hammer D should be released the reaction of the spring would force the hammer to its seat with such force that the lips *i* striking the rim of the cartridge would explode the fulminate and discharge the cartridge.

My manner of applying my improved lock to fire-arms and its operation is more fully shown in Figs. 5, 6, and 7.

B is the barrel; F, the frame. I form a chamber in the rear of the barrel (which may be in the barrel itself or the frame) to receive my lock. Grooves *e* (see Figs. 2 and 4) being fitted to corresponding projections in the said chamber, serve as guides for the movement of the hammer.

R the trigger-guard, which also forms the lever for removing the breech-pin and cocking the hammer, is hinged to the breech-pin at *t*. A bar, P, is hinged to the said lever R at *s*, and to the frame or barrel at *r*.

T is the trigger, hung in the usual manner.

The under side of the barrel or frame is open to permit the operation of the several parts, as also for the insertion of new cartridges or the removal of discharged shells.

When it is desired to place the cartridges within the bore of the barrel for discharge, drop the lever R from the position in Fig. 5 to that denoted in Fig. 6, which movement draws the breech-pin away from the bore of the barrel, carrying with it the hammer, as seen in Fig. 6. The catch *n* upon the trigger T enters a slot, *m*, (see Fig. 3,) upon the under side of the hammer, as seen in Fig. 6. In this position the cartridge I may be inserted in the bore through the slot on the under side of the barrel. When the cartridge is thus inserted return the lever to the position denoted in Fig. 5. The trigger will retain the hammer, while the breech-pin will be forced forward against the cartridge, as seen in Fig. 7, which leaves the arm cocked for discharge. This operation illustrates one of the great advantages of compressing the mainspring by the forward move-

ment of the breech-pin, as it will be readily seen the power of the lever increases as it is drawn up to its place, and the spring requires such increasing power to compress it, whereas were the spring compressed by the movement of the breech-pin back, as to open the breech, the power of the lever would diminish while the power required would increase. Pull the trigger in the usual manner for discharging fire-arms, as denoted in red in Fig. 6, which movement will release the hammer. The spiral-spring *d* within it reacting, as before described, will force the hammer forward, as seen in Fig. 5, the lips *i* striking the rim of and exploding the cartridge. Then by again withdrawing the breech-pin, as before described, the discharged-cartridge case may be removed in any known or convenient manner.

Thus I have produced a lock which may be placed within the barrel, wholly concealed, positive as to operation, and so simple in construction (being practically but two pieces—the hammer and spring) that it cannot by any possibility get out of order or repair. Other

modes of application for my improved lock may be adopted, perhaps better than the one which I have illustrated; but this arrangement practically demonstrated has proved convenient and successful. Therefore, without confining myself to any precise construction of the arm,

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

Constructing the breech-pin in the manner described, so as to unite in one piece the breech-pin and spindle of the lock, in combination with a cylinder-hammer surrounding the said spindle, and inclosing within itself a spiral mainspring, and the whole constructed and arranged to operate substantially as described, so as to compress the spring within the hammer by the forward movement of the breech-pin in closing the breech of the arm, substantially as herein set forth.

CHARLES HOWARD.

Witnesses:

JOHN E. EARLE,  
RUFUS M. SANFORD.