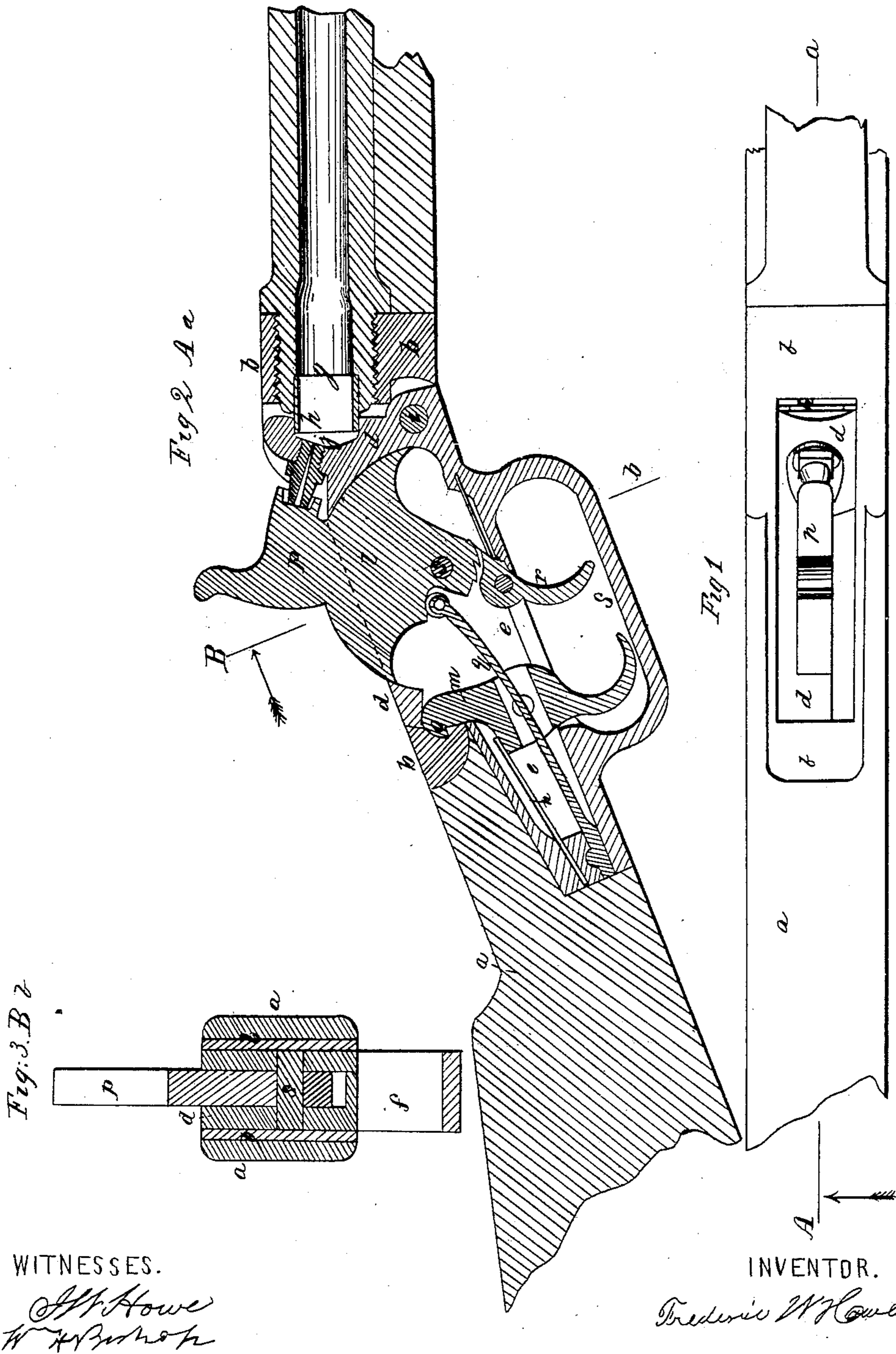


F. W. HOWE.
Breech-Loading Fire-Arm.

No. 36,466.

Patented Sept. 16. 1862.



WITNESSES.
F. W. Howe
W. H. Bush

INVENTOR.
Frederic W. Howe

UNITED STATES PATENT OFFICE.

F. W. HOWE, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 36,466, dated September 16, 1862.

To all whom it may concern:

Be it known that I, F. W. HOWE, of Providence, in the county of Providence and State of Rhode Island, 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, making part of this specification, in which—

Figure 1 is a top view of a musket on my improved plan; Fig. 2, a longitudinal section taken at the line A *a* of Fig. 1, and Fig. 3 a cross-section taken at the line B *b* of Fig. 2.

The same letters indicate like parts in all the figures.

My said invention relates to improvements in that class of fire-arms in which the charge is inserted through the rear and open end of the barrel, and inclosed by a movable breech; and the first part of my said invention consists in providing the rear and open end of the barrel with a thin projecting ferrule, in combination with a movable breech the face of which is formed with a cavity that fits over and embraces the rear end of the said ferrule. This effectually closes the breech, and the expansion of the said ferrule by the force of the explosion effectually prevents the escape of gases and smoke. And the second part of my said invention consists in combining, with a movable breech and the catch for holding it in place when closed, a projection on the back of the hammer which prevents the hammer from being lifted from the nipple when the breech is not perfectly closed, and which will prevent the breech from being closed when the hammer is either at half or at full cock, whereby many accidents, heretofore experienced in the use of breech-loading fire-arms, will be prevented. And although my said invention is equally applicable to all kinds of fire-arms which load at the breech, I shall describe it as applied to a musket, from which any one skilled in making fire-arms will be enabled to apply it to other classes of arms.

In the accompanying drawings, *a* represents the stock, and *b* the metal frame to which the barrel is secured, and which is let into the stock and suitably formed at the forward end to receive the barrel, which is secured by being tapped therein, or otherwise secured in any

other suitable manner. Back of the barrel this metal frame is mortised through to receive the movable breech *d*, and the continuation thereof, which forms the lever for operating it, and also the lock-case *e* and a trigger-guard, *f*. The rear end of the barrel or chamber *g*, for the reception of the cartridge or charge, I prefer to make of a slightly larger diameter than the bore, and the extreme rear end of the chamber is reamed out for the reception of a ferrule, *h*, which I prefer to make of steel and thin, and extending for a short distance—say about three-sixteenths of an inch—back of the rear end of the barrel, the bore of this ferrule being of the same diameter with and forming part of the chamber *g*. The movable breech *d*, with the lock-frame and guard as extensions thereof, is secured by and turns on a fulcrum pin or screw, *i*, the axis of which is below the extreme rear end of the ferrule *h*, and a little forward of the plane of the rear end thereof. In the front face of the movable breech there is a circular cavity, *j*, the bore of which fits accurately the outer diameter of the projecting part of the ferrule *h*, so that when in the position represented in the drawings it shall embrace the said projection, and thus effectually close the breech of the barrel; and as this ferrule is made thin, and is embraced within the socket or cavity of the movable breech, when the charge explodes the force of the discharge will tend to expand the ferrule, and thus effectually prevent the escape of gases and smoke. The lock-case has two sides or plates, one of which, as well as the bottom and top, are continuations of the movable breech, and I prefer to make them of one piece with it, while the other side or lock-plate is made separate and attached thereto by suitable screws. The cavity of the lock-case is suitably formed for the reception of all the parts of the lock, and I also for the reception of the catch-lever *m* with its spring *n*. The lip *o* of this catch-lever catches on a shoulder in the rear part of the mortise in the metal frame *b*, and the lower end of the said lever is suitably formed and extends into the open space of the guard *f*, and back of the trigger-lever, so as to be operated by the finger when it is desired to depress the lock-case to draw back the movable breech for the introduction of a cartridge in the chamber of the barrel. The body of the cock or ham-

mer *p* within the cavity of the lock-case is connected with the mainspring *q* by a link or in any other suitable manner, and the said cock is also suitably formed to be held at half and at full cock by the trigger *r*. Above the fulcrum-pin *s* the body of the cock is in the form of a sector, *t*, extending back and forward of the neck of the hammer, and when at half or at full cock the rear portion of the sector lies just in front of the catch-lever *m*, and thus effectually holds it in place, so that the movable breech cannot be moved while the hammer is drawn up from the nipple; hence there will be no danger of opening the breech while the hammer is lifted from the nipple; but when the hammer rests on the nipple, the catch-lever *m* can be disengaged to open the breech for the insertion of a cartridge, and so long as the catch is open the hammer cannot be lifted, for in such situation of the parts the rear part of the sector strikes against the head of the catch-lever. Another advantage and source of safety is that while the hammer is at half or full cock, and therefore liable to be liberated to strike and explode the cap, the movable breech cannot be closed, because the sector or projection on the hammer is then in front of the catch-lever and prevents it from moving.

By the means above described entire security

is obtained against many of the accidents which have heretofore occurred with breech-loading arms.

The extension of the sector forward as well as back of the neck of the hammer is to keep the mortise in the top of the lock-case, made for the motion of the hammer, closed at all times, to prevent dirt from getting into the lock.

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

1. The projecting ferrule at the rear open end of the barrel, substantially as described, in combination with the movable breech, or the equivalent thereof, having a cavity in its face to fit over and inclose the said ferrule, substantially as and for the purpose specified.

2. In combination with the movable breech and the catch for securing it when closed, the sector or equivalent projection on the cock or hammer, which prevents the hammer from being lifted from the nipple when the breech is not entirely closed, and which prevents the breech from being closed when the hammer is at half or full cock, substantially as and for the purpose described.

F. W. HOWE.

Witnesses:

J. W. HOWE,
WM. H. BISHOP.