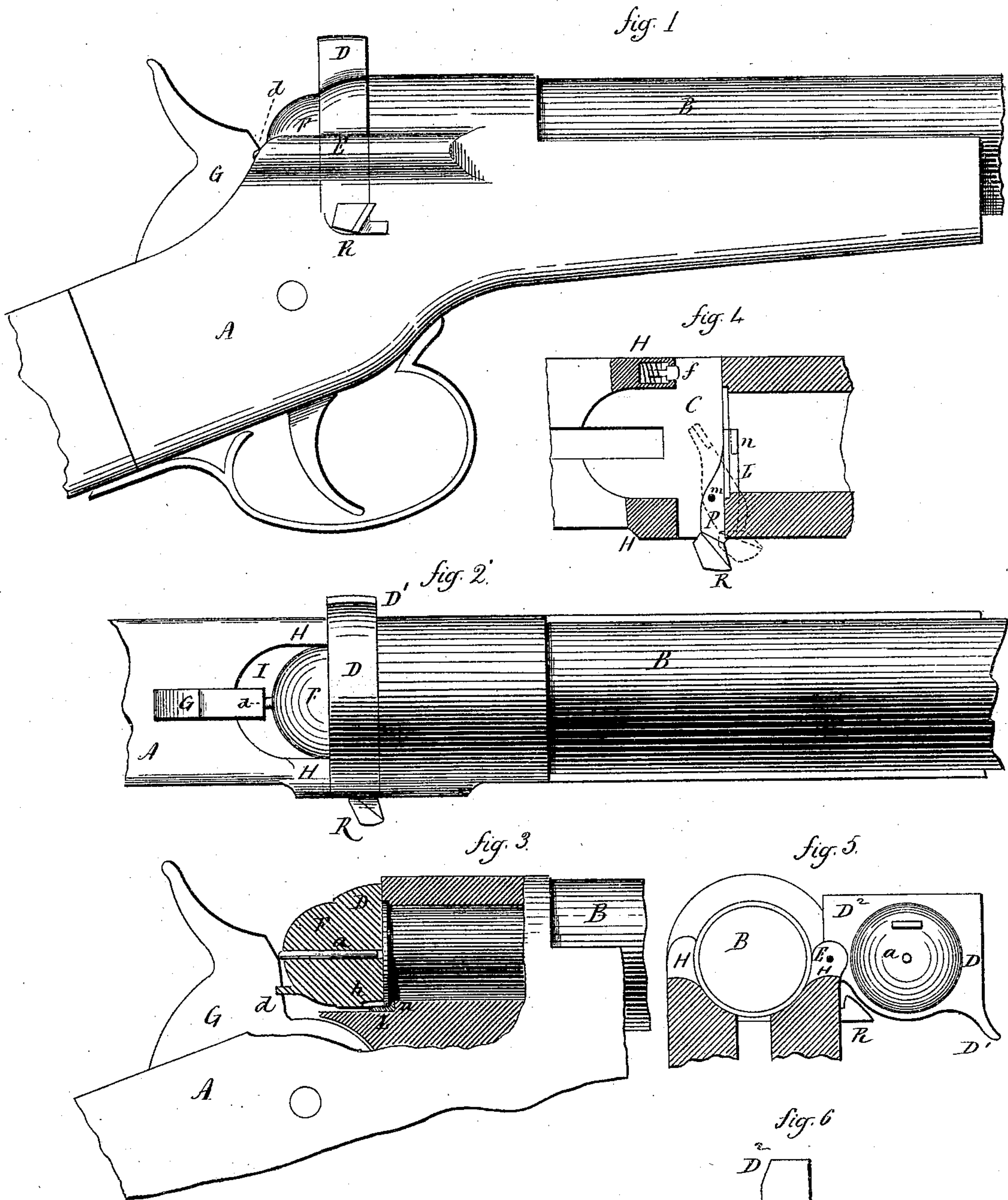


**E. WHITNEY.**  
**Breech-Loading Fire-Arms.**

No. 151,458.

Patented May 26, 1874.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 151,458, dated May 26, 1874; application filed March 18, 1874.

*To all whom it may concern:*

Be it known that I, ELI WHITNEY, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Breech-Loading 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 top view; Fig. 3, a sectional side view; Fig. 4, a longitudinal section at the breech, the breech-piece removed; Fig. 5, a transverse section on line *x x*, showing the breech-piece open.

This invention relates to an improvement in that class of breech-loading fire-arms in which the breech-block is hung at one side of the frame, and swings transversely to open or close the breech; and the invention consists, first, in constructing the transverse swinging breech-block with a rear projection, whereby a long bearing is formed for the firing-pin without lengthening the frame; second, in combining, with such breech-block, cheeks on the frame to support the breech-piece and to form a guide or channel leading to the barrel.

A is the frame, to which the barrel B is attached in the usual manner. Transversely across the frame, at the rear of the barrel, a slot, C, is formed, as seen in Fig. 4, into which the breech-block D sits, the said block hinged to the frame at one side, as at F, and so as to be turned transversely away from the frame, as seen in Fig. 5, to open the breech for the insertion or removal of the cartridge or shell. A central rear projection or enlargement, F, is formed on the breech-block, through which and the block proper the firing-pin *a* is placed, so that when the block is closed the hammer G will, in falling, strike the pin to communicate the blow of the hammer to the cartridge; and, in order that the breech-block may be held firmly in its place at the time of firing, as also to prevent discharge if the breech be not properly closed, I form a tongue or projection, *d*, on the rear of the block, and a corresponding recess or shoulder on the hammer, as seen in Fig. 3, so that when the hammer falls upon the properly-closed breech-block the said shoulder

on the hammer will lock over the projection *d* on the breech-block before the nose of the hammer reaches the firing-pin; consequently, if the block be not properly closed, the nose of the hammer will strike the said projection *d* and prevent the hammer striking the firing-pin. The breech-block is provided with a thumb-piece, D<sup>1</sup>, for convenience in opening the breech. In rear of the barrel, and distant from the breech proper, a cheek, H, is formed on each side of the frame, and between these cheeks and the breech the breech-block sits, the cheeks forming an abutment for the support of the breech-block to resist the recoil consequent upon the explosion of the cartridge. Between these cheeks H H the frame is shaped to correspond to the lower portion of the bore or cartridge-chamber, as seen in Figs. 2 and 5. This recess I serves as a guide for the insertion of the cartridge, so that when the cartridge is laid into the recess I a simple longitudinal movement will carry it directly into the cartridge-chamber. In the cheek opposite the one to which the breech-block is hinged a frictional device to hold the breech-block is placed. This consists of a piston, *f*, set in a cavity in the cheek, as seen in Fig. 4, with a spring, the tendency of which is to press the said piston outward toward the breech-block, the end of the piston protruding slightly into the recess C, so as to bear against the breech-block when it is closed to create sufficient friction thereon to hold it (the breech-block) in its closed position, but yet allow it to be easily opened, if necessary. A slight depression may be formed in the breech-block corresponding to the piston, and into which the piston will sit when the breech-block is closed; but this recess must be so slight as to allow the breech-block to be readily forced from the control of the piston. In order to avoid the necessity of forcing the cartridge quite "home" before the breech-block is closed, the first approaching edge D<sup>2</sup> of the breech-block is chamfered on the bore or front side, as seen in Fig. 6, so that in closing the breech-block the forward surface acts as a cam to force the cartridge home. As the gas, after explosion, tends to work its way out around the breech-block, and especially so when the shell bursts at the time of explosion, an exit is provided by making a groove, *h*, on the un-



der edge of the breech-piece, extending out to one side and communicating with the cartridge-chamber, as seen in Fig. 3. This prevents the possibility of the gas penetrating to the mechanism of the lock. Beneath the breech-block a lever is hung to the frame on a pivot, *m*, one arm, *L*, of which extends to about the centerline, and with an upward projection, *n*, which extends up forward of the rim of the cartridge, as seen in Figs. 3 and 4. The other arm, *P*, of the lever extends outside the frame, and so as to lie in the path of the breech-block when being opened. The projecting nose *R* of the lever has its rear inclined, as seen in Figs. 1, 2, and 5, so that as the breech is opened, and so soon as the cartridge-chamber is uncovered, the breech-block will strike upon the incline of the nose *R* and force forward that arm of the lever and the other arm back, as in Fig. 4, the projection *n* forcing the shell or cartridge, as the case may be, out from the chamber, a quick opening of the breech-block imparting so sud-

den a movement to the lever as to eject the shell free from the arm.

It will be understood that the hammer must be drawn back to at least half-cock before the breech-block is opened or closed.

I claim as my invention—

1. The breech-block *D*, hung to the frame *A* upon a pivot parallel to the bore of the barrel, so as to swing in a path transverse to the barrel, constructed with the rear projection *F*, and combined with the firing-pin *a*, substantially as specified.

2. In combination with the breech-block *D*, hung to the frame *A* upon a pivot parallel to the bore of the barrel, so as to swing in a path transverse to the barrel, constructed with the rear projection *F*, the cheeks *H H* on the frame, substantially as and for the purpose specified.

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Witnesses:

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