E. WHITNEY.

Breech-Loading Fire-Arm.

No. 112,997. Patented March 21, 1871.

Fig. 1

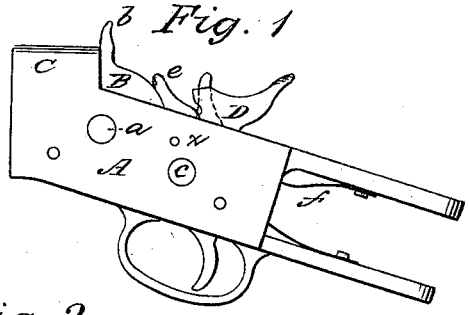


Fig. 2

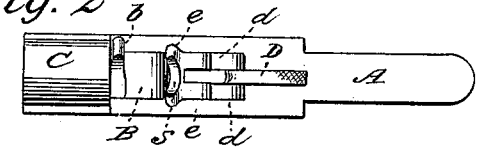


Fig. 3

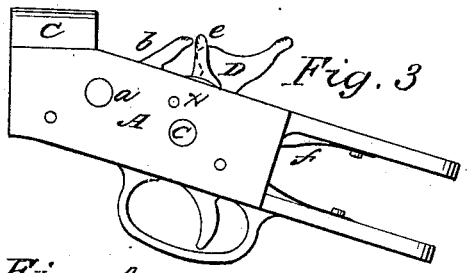


Fig. 4

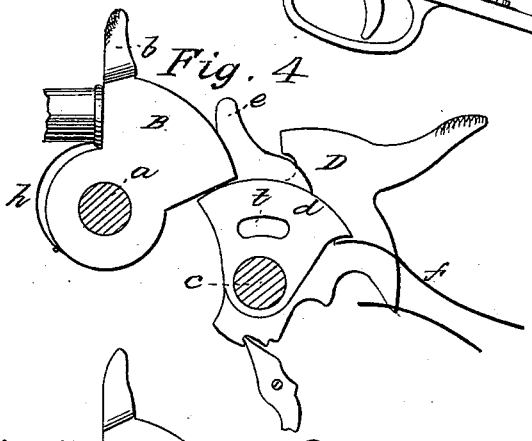
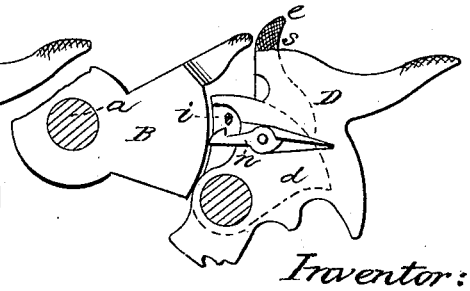


Fig. 5

Fig. 6



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ELI WHITNEY, OF NEW HAVEN, CONNECTICUT.

Letters Patent No. 112,997, dated March 21, 1871.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

The Schedule referred to in these Letters Patent and making part of the same.

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 drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents in—

Figure 1, a side view of the hammer set at half-cock;

Figure 2, a top view of the same.

Figure 3, a side view with the breech open; and in Figures 4, 5, and 6, detached views.

This invention relates to an improvement in the construction of that class of breech-loading fire-arms in which the breech-block is turned down to the rear to open the barrel for the insertion of the charge; and

It consists in a mechanism, combined with the hammer and breech-block, yet independent of both, by which the breech-block is locked in position.

A is the frame, constructed to be fitted into a wood stock in the usual manner.

C is the barrel or part of the frame to which the barrel is attached.

B is the breech-block, pivoted in the frame at *a*, as seen enlarged in fig. 4, the center of the pivot lying below and in line with the rear end of the barrel.

The breech-block is provided with a finger-piece, *b*, by which it may be turned away from the barrel, as from the position in fig. 1 to that in fig. 3.

To hold the breech-block up against the barrel I arrange a divided cam or pair of cams, *d*, (see figs. 2 and 4;) the said cams hung upon the same pivot *c* which carries the hammer D.

The surface of the said cams is of such form and shape, as seen in fig. 4, that, when the breech-block is up against the barrel, the said cams will pass under the rear of the breech-block, as seen in fig. 4, supporting the breech-block in that position, from which it cannot be removed until the cams are turned away, as in fig. 5, which is done by means of a finger, *e*, formed upon the said cams.

A spring, *f*, in the frame acts upon the cam to throw it forward under the block when the block is raised; but when the cam is drawn back, as in fig. 5, the breech-block may be turned down, as in fig. 6, which will hold the cam back until the block is raised to permit the cam to fly forward, as before described.

It is necessary to hold the cam back in order to turn down the breech-block. To do this I arrange a latch, *n*, in the hammer, which extends forward, and on the cam I form a notch, *i*, (see figs. 5 and 6,) so that, when the hammer is set at half-cock, as in figs. 1 and 5, and the cam drawn back, the latch *n* will catch upon the notch or projection *i* of the cam, and thus retain the cam in that position, until the breech-block is turned down, in doing which the breech-block strikes the forward end of the latch, which projects beyond the cam, as in fig. 5, and, in striking the latch, turns it down and frees the cam from the latch, and allows the cam to fly forward against the upper surface of the breech-block, as seen in fig. 6; then, when the breech-block is turned up against the barrel, the cam falls from the surface of the block beneath it, as in fig. 4, to support it, as before described; then the hammer may be cocked or released, as may be required.

The cams *d d* are arranged each side of the hammer, but united together by a yoke, *s*, across the top, as in fig. 3, and in fig. 6 in solid black, and are prevented from going too far back by slots *t* in their sides, into which a pin or stud, *x*, on the frame, sits, thus limiting the movement of the cams.

By this arrangement of the yoke, as both the cam and hammer are hung upon the same pivot, I am, by means of the yoke bearing upon the nose of the hammer, enabled to raise the hammer to half-cock, if such an operation at any time be desirable.

I have represented the latch as fixed in the hammer, but it will be evident to those skilled in the art that it may with equal effect be fixed upon the cam itself and catch upon the hammer, or be fixed upon the frame independent of the hammer; but I prefer that the connection be between the hammer and cams, as, by limiting the movement of the cams by the slots *t*, I am enabled to hold the hammer at half-cock and prevent accidental discharge.

I have described the cams as a pair, one upon each side of the hammer; while I prefer this construction, a single cam arranged upon one side only may answer the purpose. I therefore do not wish to be understood as confining myself to two cams or the divided cam.

On the hub of the breech-block I arrange a flat spring, *h*, as seen in fig. 4, one end of the spring being fixed to the hub, the other end left free to catch under the rim of the cartridge when the breech-block is closed, as seen in fig. 4, and so that, turning with the breech-block, it will retract the shell from the barrel when the breech-block is drawn back.

I claim as my invention—

1. In combination with the breech-block B and hammer D the cam or cams *d*, provided with thumb-piece, operating upon the same center with the hammer, but independent of the same, to release and lock the breech-block, substantially as described.

2. The cam or cams *d*, provided with thumb-piece,

combined and operating upon the same center with the hammer D, and arranged as described, whereby the hammer may be set at half-cock by means of the said cam, substantially as set forth.

3. In combination with the breech-block B, the hammer D and cam or cams *d*, the arrangement of a latch, substantially as described, to catch and hold the said cams and be tripped by the movement of the breech-block, substantially as specified.

4. The combination of the hammer D with the cam or cams *d* and the latch or catch *n*, arranged and operating as described, to couple and hold the said cams and hammer together on the cock-notch, as and for the purpose specified.

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