D. M. LEFEVER.

Breech-Loading Fire-Arm.

No. 205,193. Patented June 25, 1878.

Fig. 1.

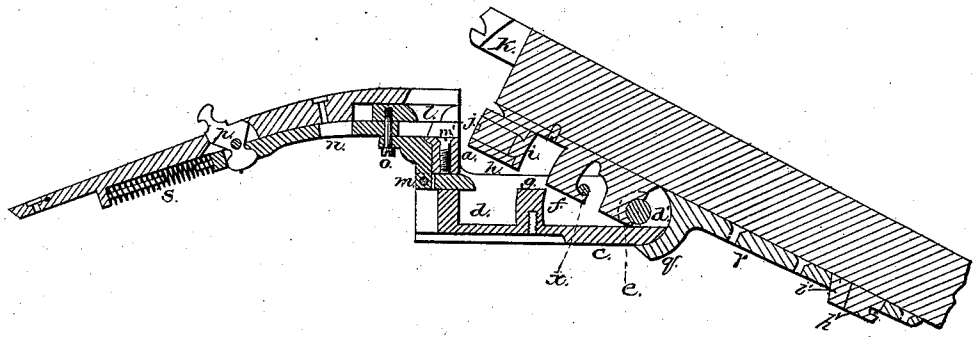


Fig. 2.

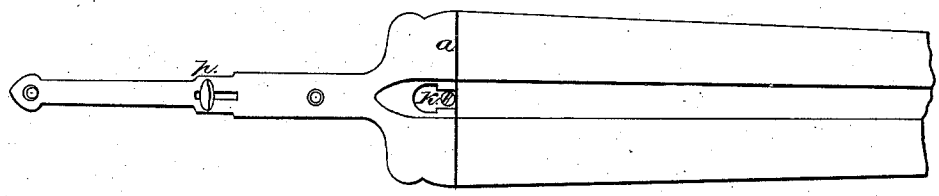


Fig. 4.

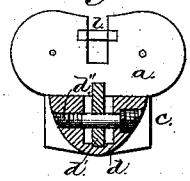
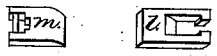


Fig. 5.



Attest:

J. J. Greenough.

Samuel Jones

Inventor:

Daniel M. Lefever

UNITED STATES PATENT OFFICE.

DANIEL M. LEFEVER, OF SYRACUSE, NEW YORK.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **205,193**, dated June 25, 1878; application filed February 12, 1878.

To all whom it may concern:

Be it known that I, DANIEL M. LEFEVER, of Syracuse, Onondaga county, New York, have invented certain Improvements in Breech-Loading Fire-Arms, of which the following is a specification, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section. Fig. 2 is a top plan; Fig. 3, the lock-bolts; Fig. 4, an end view of the breech-frame, partly in section.

The object of my invention is to give a more perfectly-fitting and permanent connection between the barrels and breech-piece than has heretofore been effected, with greater security, and less liability of the breech and barrels springing apart.

The barrels are connected with the breech-piece by means of certain hooks on the under side of the barrels, that are brought in contact with pins passing horizontally through the mortise in the breech-piece below the barrels, a part of which devices are old and have already been patented. The following are my improvements thereon.

The construction of the parts is as follows: The outline of the recoil-piece at *a* conforms in cross-section with the ends of the barrels. (See Fig. 4.) The tang *b* is similar in form to those in ordinary use. The projection *c*, which runs under the barrels, has a mortise, *d*, in it, into which the projections from the under side of the barrels fit, by which the parts are connected. These projections are three in number. The forward one, *e*, has a semicircular notch in its front face, that fits onto a pin, *d'*, passing through the mortise *d* at right angles to the barrels. This pin *d'* enters a recess in the side of the frame, and its head has a square shoulder. It screws into the opposite side of the frame, and by it the parts can be drawn together to compensate for wear. A blind-screw, *d''*, is screwed in over the head of the hinge-screw to conceal it, as seen in the cross-section in Fig. 4. The pin *d'* serves as the pivot for the barrels to turn on when their rear ends are thrown up, as seen in Fig. 1. In rear of the projection *e* there is a second one, *f*, so formed as to hook over a pin, *x*, over which pin the hook *f* plays as the rear ends of the barrels are raised. By this means the movement is limited without bringing undue strain on the pivot. A permanent boss, *g*, projects up within the mortise *d*, the faces of which are milled to the curve of a circle centering in the pivot *d'*. This boss *g* fits into a recess between hook *f* and the rear projection *h*, made just to receive it. On the front face of the piece *h* there is a wear-plate, *i*, dovetailed to it, as clearly seen in Fig. 1, and behind this wear-plate *i* there is a set-screw, *j*, by which the wear-plate can be set up as it wears away, so as to fit closely against the boss *g*, and assist in holding the barrels up against the recoil-plate. As a further security, a projection, *k*, extends backward from the rear end of the barrels, and fits into a corresponding recess in the recoil-plate, similar to some other arms, the important difference being that the projection *k* has square shoulders on its front face, as clearly seen in Fig. 2, which are cut to the curve of a circle centering on pivot *d'*, corresponding with the shoulders in the recess in the recoil-plate. This form of shoulder, instead of being rounded or wedged, as heretofore made, which allows the barrels a spring off from the recoil in firing, securely locks the parts together.

I form the locking-bolt *l* forked, as clearly seen detached, Fig. 3, *l*. An additional bolt, *m*, is connected with *l* below, catching into a notch in the rear of projection *h*, thus doubly bolting it. The bolts *l m* are limited to their shank *n* by a single screw, *o*. They are forced forward by a spring, *s*, under the tang, bearing against the shank *n*, and are drawn back by a thumb-piece, *p*. (Seen in Fig. 1.)

The frame and barrels are held together by means of a hinge-strap, *q*, curved on its face to correspond with the end of the projection *c* on the breech-piece. The shank of this strap is keyed to and moves with the barrel.

The lug *h'* on the barrel, over which the shank of the hinge-strap *q* fits in the usual way, has a wear-plate, *i'*, made and adjusted in the same manner as, and for an analogous purpose to, the wear-plate *i* on the projection *h*, before described.

To compensate for the wear of the lower bolt *m*, above named, I employ a screw, *m'*, that is screwed down upon it.

Having thus fully described my improvements in fire-arms, I claim—

1. In breech-loading fire-arms, the projection *k*, formed with square shoulders on its sides, in combination with the recoil-plate, provided with a corresponding recess, the shoulders on said projection and on the recess being curved in the arc of a circle struck from the pivot on which the barrels turn, substantially as and for the purposes described.

2. The compensating-plate *i* and adjusting-screw *j*, attached to the projections *h* upon the barrel, as and for the purposes specified.

3. The screw *m'*, for compensating the wear of the lower catch-bolt *m*, as above specified.

In witness whereof I have hereto signed my name in presence of witnesses.

DANIEL M. LEFEVER.

Witnesses:
J. J. GREENOUGH,
JAMES S. THORN.