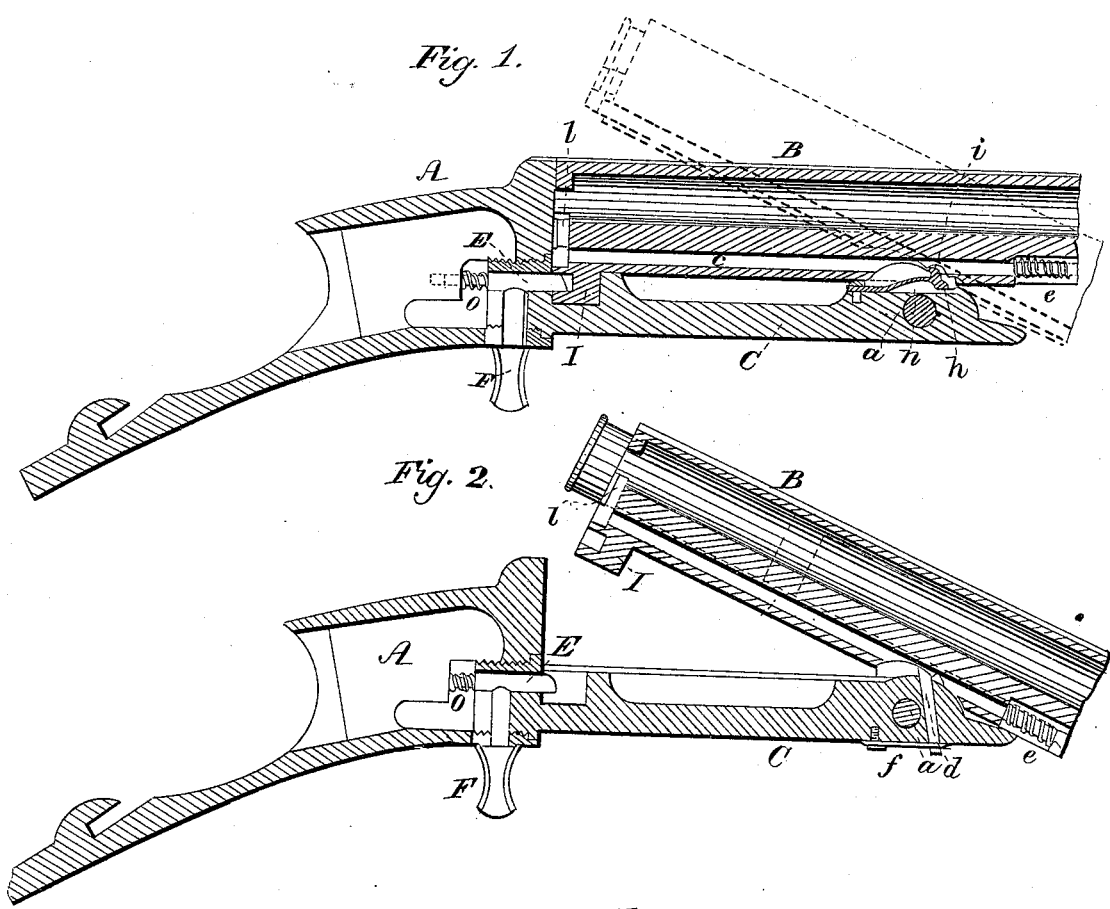


WHITNEY, GERNER & TIESING.

Breech-Loading Fire-Arm

No. 93,149.

Patented July 27, 1869.



Inventors.

Witnesses;

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# United States Patent Office.

ELI WHITNEY, C. GERNER, AND F. TIESING, OF NEW HAVEN, CONNECTICUT; SAID  
GERNER AND TIESING, ASSIGNORS TO ELI WHITNEY.

Letters Patent No. 93,149, dated July 27, 1869.

## 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 we, ELI WHITNEY, C. GERNER, and F. TIESING, of New Haven, in the county of New Haven, and State of Connecticut, have invented certain new and useful Improvements in Breech-Loading Guns; and we 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, and to the letters of reference marked thereon, like letters indicating like parts, wherever they occur.

To enable others skilled in the art to construct and use our invention we will proceed to describe it.

Our invention relates to breech-loading guns; and The invention consists in a novel manner of operating the retractor that ejects the shells, as hereinafter explained.

Figure 1 is a longitudinal vertical section of a portion of a gun containing our improvement, and

Figure 2 is a similar view representing the same in a modified form.

In the construction of breech-loading arms, it is necessary to provide some means of getting the shells out of the barrels after the gun has been fired, and it is desirable that this should be accomplished in the act of tipping the barrels, this invention being specially adapted to that class of guns in which the barrels are hinged so as to tip up at the breech.

In the drawing—

A represents that part of the frame that contains the locks, and

C represents an arm protruding from the front and lower portion of the breech; the barrels B being hinged to the front end of this arm C at *a*.

The retractor *l* has a stem, *c*, fitted so as to slide in a hole made longitudinally in the rib or piece fitted to the under side of the barrels, and having a spiral spring, *e*, on it near its front end, which serves to draw the retractor *l* close against the ends of the barrels at all times except when shoved back to eject the shells.

A spring, *n*, is secured in a recess on the upper face of the arms C, directly over the joint, as shown in fig. 1; this spring having on its upper face a projection or hook, *i*, which engages in a notch in the under side of the stem *c*, the spring *n* having also a projecting end, *h*, as shown in fig. 1.

When thus arranged, it will be seen that when the barrels are tipped up, as represented in blue lines in fig. 1, the hook *i* engaging with the notch of the stem *c*, will force the retractor out, until the barrels have tipped so far that the stem *c* strikes against the projecting end *h* of the spring *n*, thus forcing the hook

*i* out of the notch, thereby releasing the stem *c*, when the spring *e* will carry the retractor home to its place.

As the barrels are brought down to close the breech again, the hook *i* engages again in the notch, ready to operate the retractor again as soon as the barrels are tipped up; and the retractor is made to operate automatically and continuously at each movement of the barrels.

In fig. 2 we have represented the same idea, somewhat modified in its application.

In this case we have represented a pin, *d*, fitted loosely in a hole in the front end of the arm C, this pin being held up by a spring, *f*, secured to its under side, as shown.

The pin *d*, in this case, takes the place of the hook *i* in the other case; its upper end engaging in the notch in the retractor-stem, and operating it in the same manner.

As soon as the barrels are tipped far enough to cause the shoulder of the notch in stem *c* to stand at a sufficient inclination, the pin *d* is forced down by the inclined face of the notch, the spring *f* yielding and permitting the pin to descend slightly, and thus the pin is disengaged from its hold on the stem *c*, and the retractor is brought home by the spiral spring *e*, the same as in the other case.

The barrels are secured to the arm C at the rear by a lug, *I*, which fits into a hole or recess in the arm C, and is locked there by a sliding bolt, *E*, which is forced forward by a spiral spring, *o*, and is withdrawn by a finger-piece or trigger, *F*, as shown in the drawings.

By pulling back the lock-bolt *E*, the barrels are released; and being so hinged that the portion towards the muzzle overbalances the portion in rear of the hinge, it follows that their rear end is thrown up by the weight of the front end, and thereby at the same time operates the retractor, as hereinbefore explained.

Having thus described our invention,

What we claim, is—

1. The retractor-rod *c*, in combination with the spring *n*, provided with the hook *i*, or its equivalent, arranged to operate as described, whereby the retractor is operated by tipping the barrels, and returned to its place automatically, substantially as herein described.

2. The arrangement of the barrels B, with the retractor applied and operated as described, and the lock-bolt *E*, all as herein set forth.

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