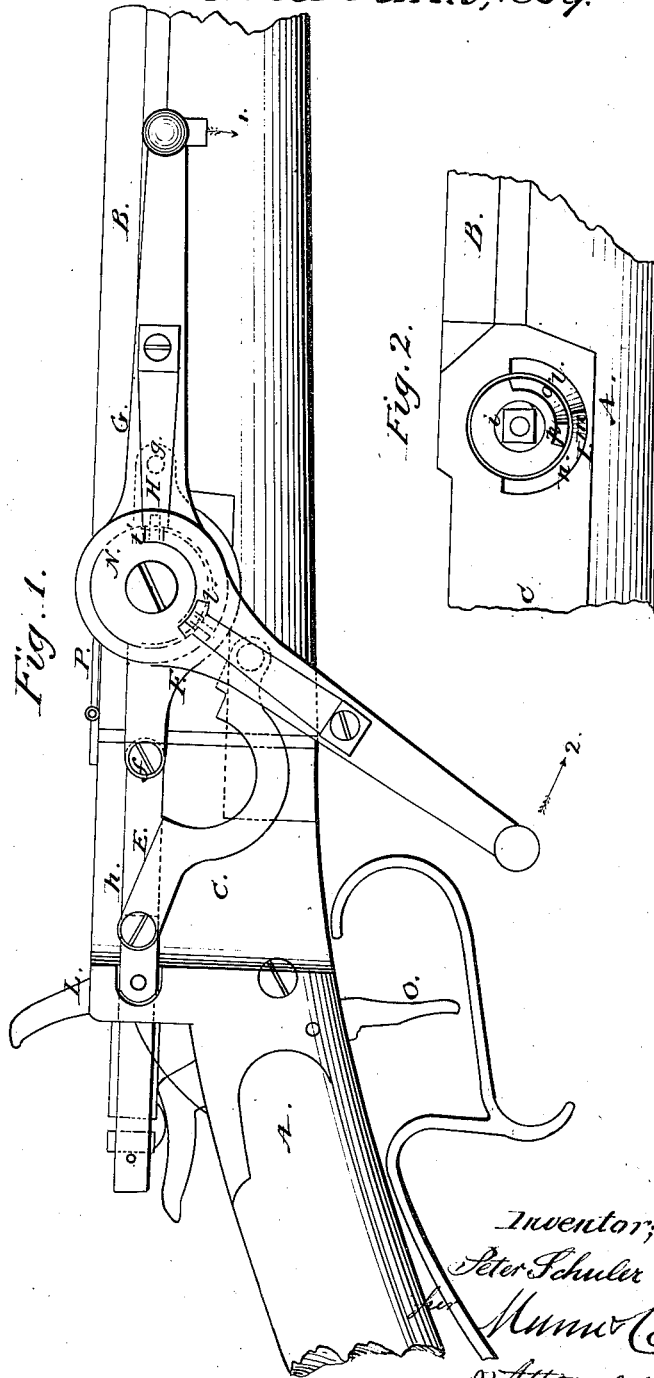


*P. Schuler. Sheet 1 of 2 Sheets  
Breech-Loader.*

*N<sup>o</sup> 85,616. Patented Jan. 5, 1869.*



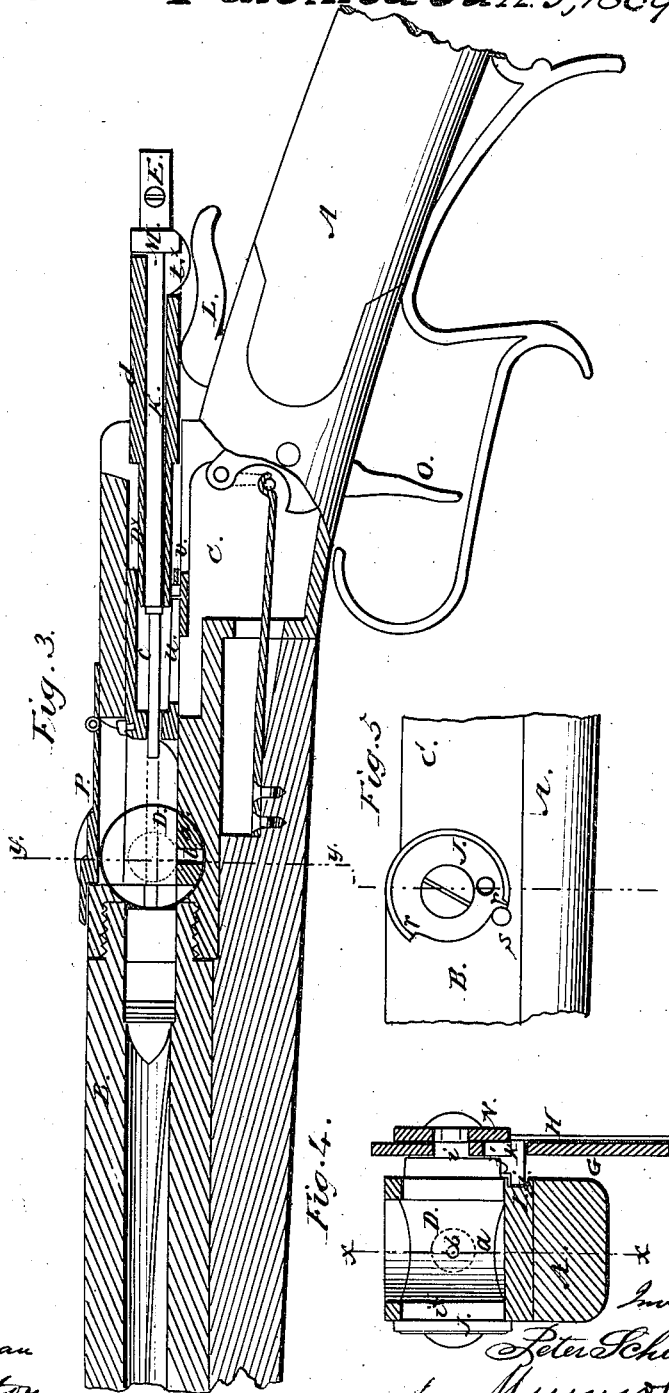
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*P. Schuler* *Sheet 2 of 2 Sheets*  
*Breech-Loader*

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# United States Patent Office.

PETER SCHULER, OF MORRIS, INDIANA.

Letters Patent No. 85,616, dated January 5, 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 I, PETER SCHULER, of Morris, in the county of Ripley, and State of Indiana, have invented a new and useful Improvement in Fire-Arms; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to a new and useful improvement in fire-arms, of that class which are commonly termed "needle-guns;" and

It consists in a novel construction and arrangement of parts, as hereinafter fully shown and described, whereby simplicity of construction, and rapidity in loading and firing, combined with safety, are obtained.

In the accompanying sheet of drawings—

Figure 1, Sheet No. 1, is a side view of my invention.

Figure 2, a side view of a portion of the same, with a certain lever detached, in order to exhibit mechanism pertaining to said lever.

Figure 3, Sheet No. 2, a longitudinal section of the same, taken in the line *x x*, fig. 4.

Figure 4, a transverse section of the same, taken in the line *y y*, fig. 3.

Figure 5, a side view of a portion of the same, opposite to the side shown in fig. 1.

Similar letters of reference indicate corresponding parts.

A represents the stock of the fire-arm, and B, the barrel thereof.

C is a metal chamber, secured in the stock A, at the rear end of the barrel, the front end of C being screwed on the rear end of B, as shown clearly in fig. 3.

In the front part of this metal chamber C, directly at the rear of the barrel B, there is fitted transversely a breech-cylinder, D, the journals of which have their bearings in the sides of the chamber C.

This breech-cylinder is hollowed out at its centre, so that when the cylinder is turned in such a position that the concave of the hollow will be uppermost, or the uncut part, *a*, of the cylinder be lowermost, as shown in blue tint in fig. 3, free access will be had for the insertion of a cartridge into the rear end of the barrel B, and when said cylinder is turned in such a position that the uncut part, *a*, of the cylinder is in a vertical position, the rear end of the barrel will be closed, as shown in red in fig. 1.

The way in which this breech-cylinder is turned will be presently explained.

The uncut portion *a* of the breech-cylinder has a hole, *b*, made through it, the use of which will be presently shown.

D<sup>x</sup> represents a telescopic tube, composed of two parts, *c d*, the front part of *d* being fitted within *c*, as shown clearly in fig. 1.

This tube D<sup>x</sup> is fitted in a proper opening in the rear part of the chamber C, and it extends through the back end of C, as shown in fig. 3.

To the right-hand side of the rear part *c* of the tube D<sup>x</sup>, there is attached a longitudinal rib, E, (see fig. 1,) and to the outer side of this rib there is attached by a screw, *f*, one end of an arm, F, the opposite end of said arm being attached by a screw, *g*, to a lever, G, as shown by dotted lines in fig. 1.

The screw *f* passes through an oblong slot, *h*, in the right-hand side of the chamber C, which slot admits of a longitudinal movement of the rib E and tube D<sup>x</sup>, when the lever G is turned.

This lever G is fitted loosely on a journal, *i*, of the breech-cylinder D, and to the outer side of lever G there is attached a spring, H, the free or disengaged end of which is bent inward, and cut or filed, so as to form two projections, *j j*, one of which, *j*, is longer than the other, *j*, both projections passing through an oblong slot, *k*, in the lever G.

The long projection *j* fits in a semi-annular slot, I, made in the outer side of the chamber C, concentric with the journal *i*, and underneath it, (see fig. 2,) and one-half of said slot I has an inclined inner surface or bottom, *l*, the elevated end *m* of which is at the centre of slot I, and forms an abutment at the adjoining end of the other part, *n*, of the slot, which part *n* is also inclined from the abutment *m* toward the opposite end.

The outer surface of the journal *i* is a cam, which is formed of a curved inclined plane or surface, *o*, and a recess, *p*, which is at the elevated end of *o*.

The spring H, with its projections, and the semi-annular slot I, with its inclined surface, form a means by which the lever G is connected with and disconnected from the cylinder D, when desired.

On the other journal *i* of the cylinder D, (see fig. 5,) there is secured a circular disk, J, the periphery of which is notched, so as to form two shoulders, *r r*, which, in connection with a pin, *s*, at the left-hand side of C, serve as a stop for the breech-cylinder, preventing it from moving beyond a proper position in either direction.

K represents the needle, which explodes the cartridge, when the former is struck by the hammer L.

This needle is fitted loosely in the tube D<sup>x</sup>, and it has a head, M, on its outer end, beyond the tube, said head having a pendent flange, *t*, at its under side, as shown clearly in fig. 3.

On the outer end of the journal *i* there is fitted a circular plate, N, which is notched at its periphery to form two shoulders, *t t*, as shown in fig. 1, to serve in connection with spring H, as a stop for lever G.

When the lever G is in the position, as shown in blue tint in fig. 1, the piece is in readiness to be discharged, and the drawing, fig. 1, shows the piece as having been discharged, the hammer L being thrown forward, and consequently in contact with the head M of the needle, the front end of the

part *c* of the tube  $D^{\times}$ , in contact with the breech-cylinder *D*, and the front part of the needle *K* through the hole *b* in said cylinder, as shown in red in fig. 3.

On drawing the lever *G* back, in the direction indicated by arrow 1, the part *d* of the tube  $D^{\times}$  and needle *K* are forced back, the breech-cylinder *D* not turning until the short projection *j* catches into recess *p* of journal *i*, which occurs when *G* has described an arc of about ninety degrees, and reaches a position about at right angles with the barrel *B*. A connection being then formed between the lever *G* and the breech-cylinder *D*, the latter, as the lever *G* is drawn back to a position directly reverse to that shown in blue tint in fig. 3, is turned, so that the uncut part *a* of cylinder *D* will be undermost, and at the same time the tube  $D^{\times}$  and needle *K* will have been drawn fully back.

A cartridge may now be inserted through an opening in the top of the chamber *C*, into the rear end of the barrel *B*, and when the lever *G* is turned in a reverse direction, or forward in the direction indicated by arrow 2, the cylinder *D* is turned to a closed position, as the lever *G* is still connected to the cylinder, the former being disconnected from the latter when the abutment *m* throws up the projection *j*, and the shorter projection *j'* out from the recess *p*.

The tube  $D^{\times}$  commences to move forward when the lever *G* is first moved, and the movement of the needle *K* with it is arrested by the pendent flange  $i^{\times}$  of the head *M*, coming in contact with a swell, on the hammer *L*. This causes the needle to be drawn back in  $D^{\times}$ , the extent of its movement before the tube  $D^{\times}$  has reached the termination of its forward movement.

It will be seen that as  $D^{\times}$  is drawn back, it cocks the hammer *L*, and when the trigger *O* is pulled and the

hammer released, the latter drives forward the needle *K*, until its head *M* comes in contact with the outer end of the part *d* of the tube, the cartridge being thereby exploded.

I would remark that the opening in the upper part of the chamber *C*, for the insertion of the cartridge, may be provided with a cover, *P*, and that the front part *c* of the tube  $D^{\times}$  has a slot, *u*, in its lower side, through which a pin, *v*, in *d*, passes, (see fig. 3,) so that *c* will be moved forward and backward at the proper time by the movement of *d*.

Having thus described my invention,

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

1. The rotating breech-cylinder *D*, in combination with the lever *G* and the needle-tube  $D^{\times}$ , when the parts are constructed and arranged to operate by the movement of lever *G*, substantially as shown and described.

2. The spring *H*, attached to lever *G*, and provided with the projections *j j'*, in combination with the semi-annular slot *I*, in the outer side of chamber *J*, provided with the inclined surfaces *l n*, the inclined surface *o*, and recess *p*, in the outer surface of the journal *i* of the breech-cylinder and the notched disks *J N*, on the ends of the bearings of cylinder *D*, all arranged substantially as and for the purpose specified.

The above specification of my invention signed by me, this 27th day of July, 1868.

PETER SCHULER.

Witnesses:

ALLEN NIBERT,

AMAND BRANDSTELLER.