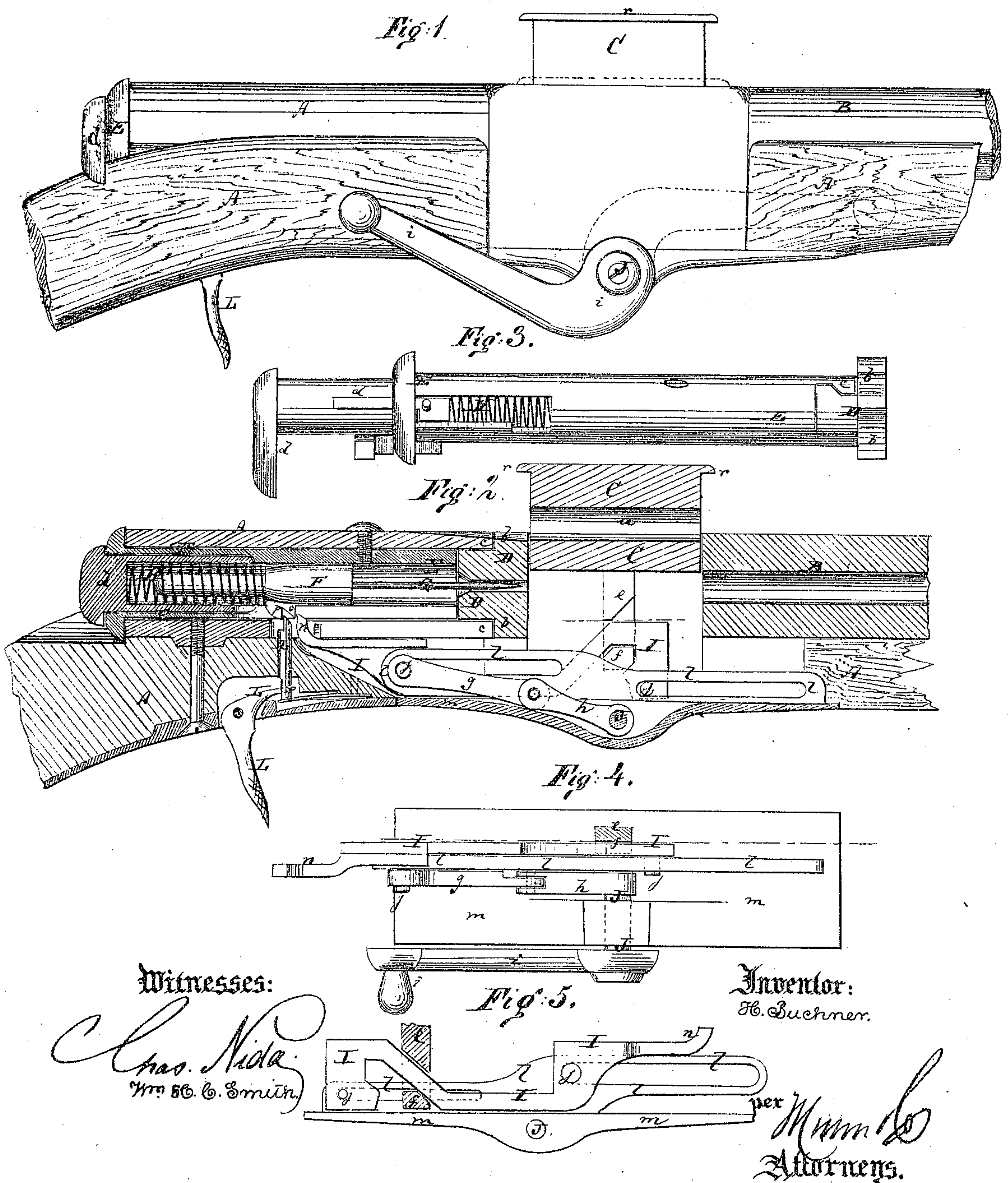


H. BUCHNER.  
 Improvement in Breech-Loading Fire-Arms.  
 No. 114,259. Patented May 2, 1871.





# United States Patent Office.

HEINRICH BÜCHNER, OF NEW YORK, N. Y.

Letters Patent No. 114,259, dated May 2, 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, HEINRICH BÜCHNER, of the city, county, and State of New York, have invented a new and improved Breech-loading Fire-Arm; 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 drawing forming part of this specification, in which—

Figure 1 represents a side view of my improved fire-arm without barrel and butt end.

Figure 2 is a longitudinal section of the same.

Figure 3 is a detail side view of the spring-tube and breech-block.

Figure 4 is a detail plan or top view of the lock.

Figure 5 is a detail side view of the same, showing the opposite face from that which is illustrated in fig. 2.

Similar letters of reference indicate corresponding parts.

My invention relates to breech-loading fire-arms, and consists in certain improvements thereon, which will be fully described in connection with all that is necessary to a full understanding thereof, and then clearly pointed out in the claim.

A in the drawing represents the stock of the fire-arm.

B is the barrel, rigidly connected therewith.

C is the cartridge-block, being a vertically-adjustable block fitted against the breech end of the barrel, and bored to form the cartridge-chamber *a*.

The block C can be elevated so that the chamber *a* will be clear above the upper face of the barrel to permit the insertion of the cartridge, and it is then lowered to bring the chamber *a* in line with the bore of the barrel for permitting the proper discharge of the projectile.

D is the breech-block of the arm. It is made of strong material, and secured in the frame of the gun so as to fit flush against the back of the cartridge-block.

I prefer to make it removable in the manner shown—that is to say, provide it with a flange, *b*, which overlaps and abuts against the front end of the stock at *c*, and with a hook-shaped recess or projection, which permits the spring-tube and needle-case E to lock into it in the manner clearly shown in fig. 3. In this manner a substantial breech-block is provided on needle breech-loaders.

The spring-tube E is fitted into the frame or stock of the gun behind the breech-block.

It contains a sliding plug, F, from which the needle G projects; and a spring, H, behind said plug for propelling it toward the cartridge.

The back end or head *d* of the tube E I prefer to make longitudinally adjustable within said tube for the purpose of regulating thereby the power of the spring, and for allowing to throw said spring entirely out of action, by so far withdrawing the head as to prevent its compression by the inner plug F.

The functions to be performed by the arm are, therefore, the following:

The cartridge-block must be elevated, as in fig. 2, to permit the insertion of the cartridge; the plug F must be pushed and held back for compressing the spring and withdrawing the needle; the cartridge-block must then be lowered to bring the cartridge in line with the bore of the barrel; and, finally, the plug is released and propelled forward by the spring to carry the needle toward the cartridge and explode the charge.

From the cartridge-block C projects downwardly an arm, *e*, which has a lug or knob, *f*, at its lower end.

This lug or knob enters an inclined slot which is provided on a slide, I.

The slide I is, by a link, *g*, connected with the crank *h* of a transverse shaft, J, which hangs in the lower part of the gun.

*i* is the crank-handle of the shaft J, by means of which the same may be turned at will.

The slide I has projecting pins, *j j*, which enter straight horizontal slots in a guide-plate, *l*, that projects from the bottom plate or guard *m*.

The slide is moved horizontally by the turning of the crank-shaft J, and its motion serves to move the block C vertically.

A hook, *n*, projecting from the slide I, catches against a lug, *o*, of the plug F.

When the handle *i* is turned so as to move the slide I backward the block C is elevated, and at the same time the plug F is moved back so as to compress the spring H, all parts being then in the position shown in fig. 2.

In this position the trigger L catches into a notch, *p*, of the plug, and serves to retain the same.

After the cartridge has been inserted in the block C, the shaft J is turned to move the slide forward, thereby lowering the block C to bring the cartridge in line with the barrel.

The cartridge-block has a projecting flange or ledge, *r*, on top, whereby its downward motion is absolutely defined.

The touch of the trigger will release the plug and produce the discharge of the cartridge.

The cartridges employed are preferably of such construction that their shells will be ejected at the same time with the projectile, so that separate means for ejection after firing need not be provided.

Whenever the head is drawn out, as in fig. 3, the spring will not be compressed by the plug, and the arm is, therefore, at rest without danger of spontaneous or accidental discharge.

The motions for operating this gun are very few—first, the crank-handle is turned back; second, the cartridge inserted; third, the crank-handle turned forward; and, finally, the trigger touched.

The breech-block D keeps the back of the cartridge-chamber properly closed, and prevents the escape of gases into the lock.

Having thus described my invention,  
I claim as new and desire to secure by Letters Patent—

1. The slide I, combined with the vertically-recip-

rocating cartridge-block C and with the horizontally-reciprocating needle-head or plug F, to operate the same simultaneously, as specified.

2. The crank-shaft J, connected with the slide I and combined with the slotted guide-plate L, to operate the same, substantially as herein shown and described.

3. The notches O P on the needle-plug, combined with sliding hook n and trigger L, to operate, as described, in successively withdrawing, holding, and discharging the needle-plug F.

HEINRICH BÜCHNER.

Witnesses:

GEO. W. MABEE,

ALEX. F. ROBERTS.