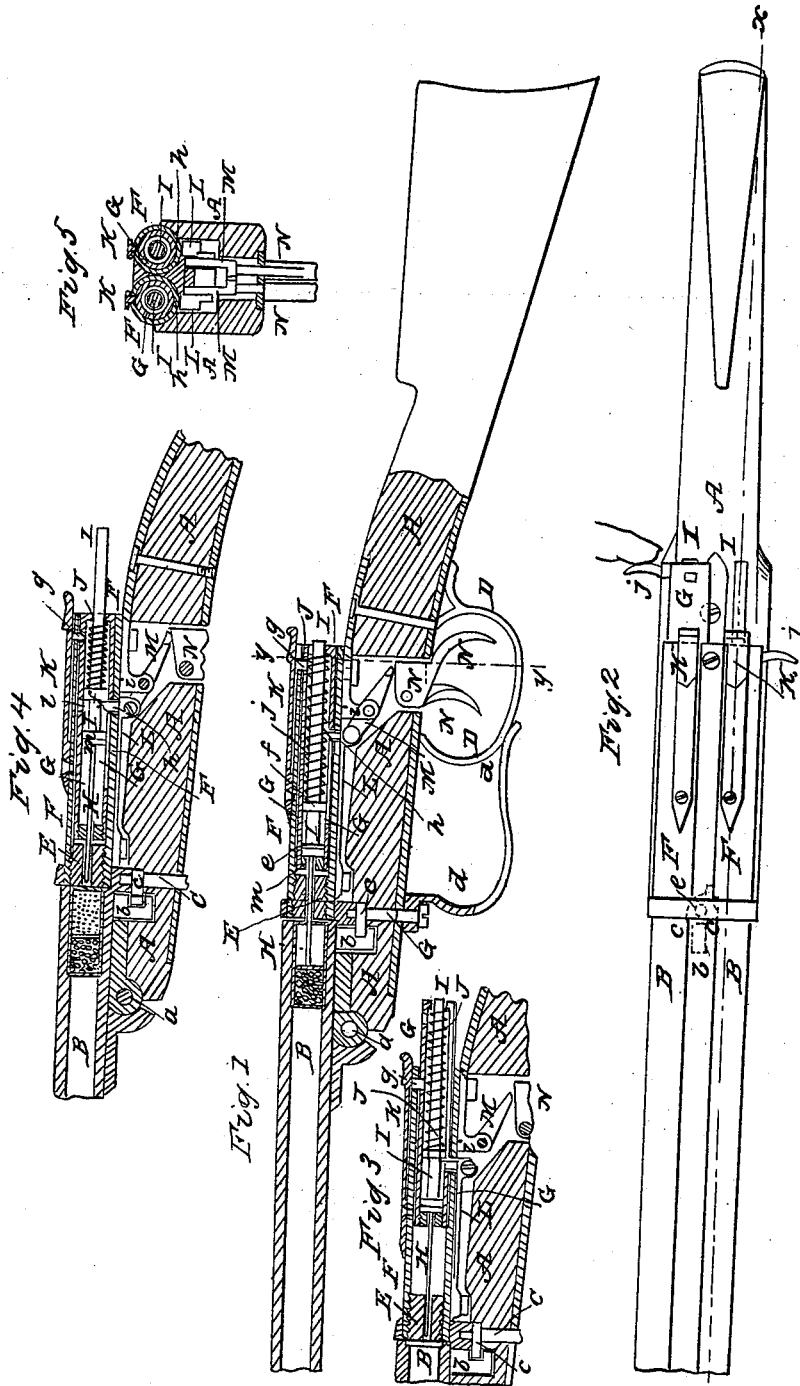


G. SCHULZ.

Breech-Loading Fire-Arm.

No. 89,947.

Patented May 11, 1869.



Witnesses  
Gustave Dietrich  
Wm A Morgan

Inventor  
Gustav Schulz  
per Messrs. H. & C.

# United States Patent Office.

GUSTAV SCHULZ, OF FORT MADISON, IOWA.

Letters Patent No. 89,947, dated May 11, 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, GUSTAV SCHULZ, of Fort Madison, in the county of Lee, and State of Iowa, have invented a new and useful Improvement in Breech-Loading 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 part of this specification, in which—

Figures 1, 3, and 4, are vertical longitudinal sections of my improved breech-loading fire-arms.

Figure 2 is a plan or top view of the same.

Figure 5 is a vertical transverse section of the same, taken on the plane of the line *y y* of fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new breech-loading needle-gun, which is especially adapted for hunting, but which may also be advantageously used for military purposes.

Its object is not so much to obtain rapidity for loading, but, more particularly, certainty of action, accuracy, and lightness.

The invention consists in an entirely novel apparatus for holding and operating the needle, which apparatus is of very simple construction, and easily operated.

The needle-shank is secured in a movable tube, which is contained within a fixed tube. The spring which propels the needle forward is compressed between a shoulder on the needle-shank and the rear end of the sliding tube. If the latter is drawn back with the needle, the spring will not be compressed, and the piece cannot be fired, it being then cocked.

The improved lock is applied to a gun, provided with a swinging barrel, so that the cartridge can be introduced, and its lining removed without disturbing the lock. The lock may, however, be also applied to muzzle-loaders, if desired.

A, in the drawing, represents the stock of my improved fire-arm. B is the barrel of the same.

In the drawing a double barrel is shown, but the invention is equally applicable to single as well as double barrels.

The barrel is pivoted, by a pin, *a*, to the front end of the stock, so that it can be swung down to lay open its breech-end for the purpose of receiving a charge, or to have a cartridge-shell removed.

A hook, *b*, projects from the under side of the barrel, at the breech-end of the same.

C is a pin, fitted through the stock, and carrying a cam or head, *c*, at its upper end.

This cam, when the barrel is turned in line with the stock, fits into the hook *b*, as shown in fig. 1, so as to hold the rear end of the barrel down upon the stock.

The pin C is, at its lower end, connected with an

arm, or lever, *d*, by means of which it can be turned, the said lever being locked to or leaning against the trigger-guard D, as shown.

When the gun is loaded, the barrel is locked by the cam *c*, and is then in position for firing.

The lever *d* is, when the charge has been exploded, swung to one side, so as to withdraw the cam *c* from the hook *b*, whereby the barrel is liberated, to swing down, to expose its breech-end, to have the remnants of the old charge removed, and a new cartridge inserted.

The bore of the barrel may be rifled, or smooth, and its breech-end may be enlarged to receive the cartridge, as shown in figs. 1 and 4.

The breech-block E is firmly secured in the front end of a tube, F, which is fixed to the stock, in suitable manner, one block, E, and tube F, being provided for each barrel, should a double barrel be used.

The rear end of each tube F is open.

Into each tube is fitted a hollow cylinder, G; which is closed at both ends, the front end being perforated as well as the breech-block E, for the purpose of allowing the needle H to pass through them into the barrel, as in fig. 1.

The needle H is secured to the front end of a bar, I, which is fitted into the cylinder G, so as to project through the perforated rear end of the same.

On the bar, or rod I, are formed two shoulders, *e* and *f*, the former at its front end, the latter about half an inch in rear of the same, as shown.

In front of the shoulder *e* may be placed a leather plate, *m*, which is to prevent the parts from being damaged, when thrown forward during firing.

J is a spiral spring, inserted within the cylinder G, around the rod I, between the shoulder *f* and the rear end of the cylinder.

Upon each tube F is fitted a spring, K, which has a pin, *g*, fitting through an aperture of F, into another aperture or indenture of the cylinder G, while the same is entirely concealed in the cylinder.

To the under side of each tube F is also secured a spring, L, which carries a pin, *h*, that fits through an aperture of F, and through a slot of G, into the latter, as shown, the slot in G being long enough to allow it to be drawn back without disturbing the pin *h*.

Each spring L is connected with a lever, M, that is pivoted to a fixed lug, *i*, and which rests on the trigger N, as shown.

By pulling the trigger N, the spring L will be pulled down, so as to draw the pin *h* out of the cylinder G.

To the rear end of each cylinder G is secured an arm, or handle, *j*, shown in fig. 2. By its means the cylinder can be drawn back.

The operation is as follows:

After a cartridge has been exploded, the parts are in the position shown in fig. 1. The first move required, after the spring K is slightly raised, is to draw, by means of the handle *j*, the cylinder G backward,

until the pin *g* will fit into a second, more forward aperture, *l*, of the same, as shown in fig. 3. The rod *I* and needle *H*, are, by this motion of the cylinder, also drawn back into the position shown in fig. 3, so that the catch *h* fits in front of the shoulder *f*. The front edge of *h* is rounded, so that the shoulder *f* may pass over it, to be locked; the rear edge of *g* is also rounded, to allow the cylinder *G* to be pushed forward. When, by the aforesaid moves, the needle is withdrawn from the barrel, the latter may be tipped, to have the cartridge-shell removed, and the new charge inserted, and may then be relocked by the cam *c*. In this position the piece is cocked, and cannot be fired, as the spring *J* is not compressed.

The trigger may be pulled at pleasure, without causing the needle to move forward.

In order to prime the piece, the cylinder *G* is pushed forward until it is again in the original position. It will not carry the bar *I* and needle forward with it, as they are locked by the pin *h*, and will, therefore, by

this motion, compress the spring between its rear head and the shoulder *f*, as is clearly shown in fig. 4.

The piece is now ready to be fired. By pulling the trigger, the rod *I* will be released, and will be driven forward by the spring *J*, so as to force the needle into the barrel, where it will pierce and ignite the fulminate, thereby exploding the charge.

Having thus described my invention,

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

The lock, consisting of the fixed tube *F*, movable cylinder *G*, rod *I*, needle *H*, and springs *J*, *K*, and *L*, the rod *I* having two shoulders, *e* and *f*, and the springs *K* and *L*, the pins *g* and *h*, respectively, all made and operating substantially as herein shown and described.

GUSTAV SCHULZ.

Witnesses:

W. G. BUCK,  
W. O. HOOVER.