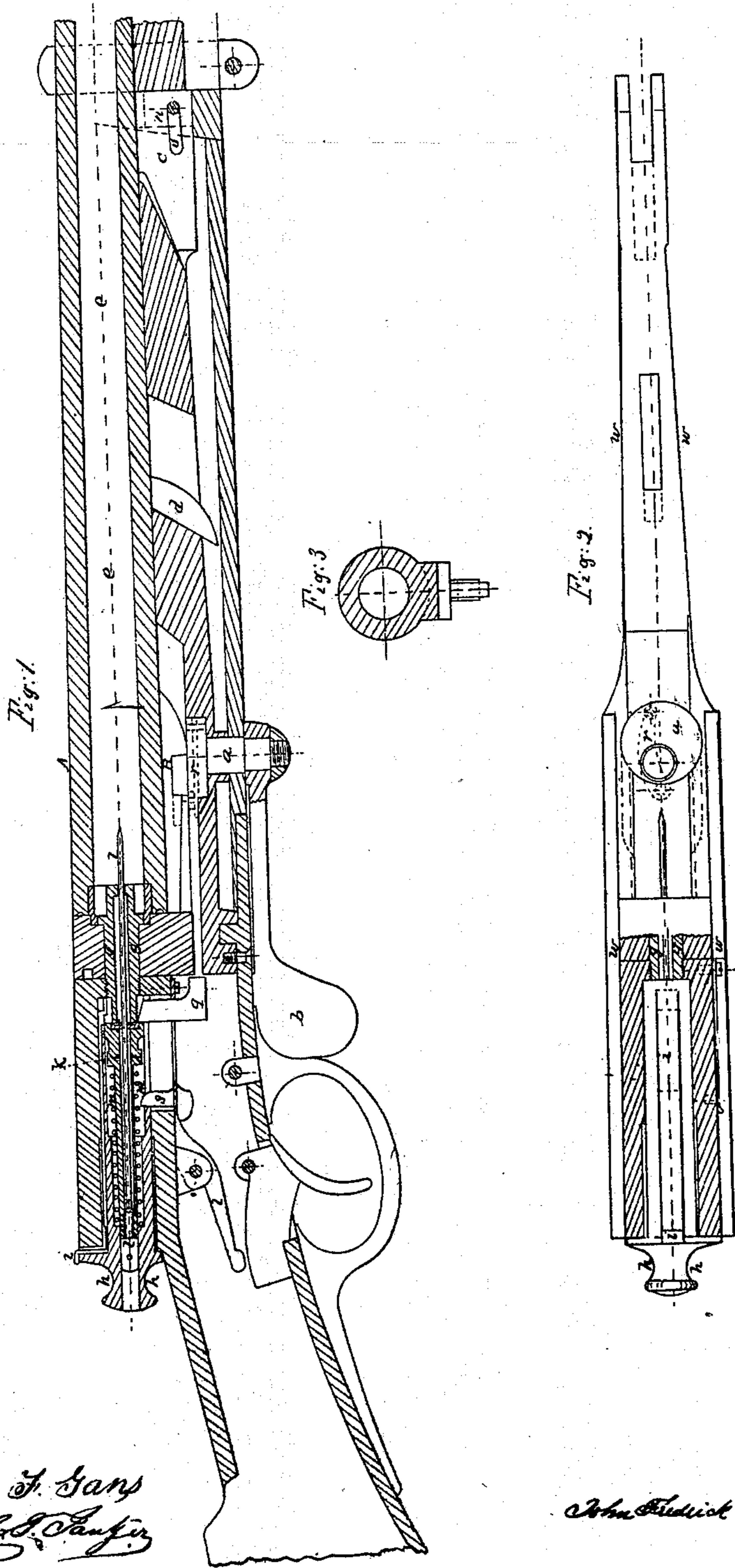


J. F. C. CARLE.  
Breech-loading Fire-arm.

No. 52,938.

Patented Feb. 27, 1866.



Witness

J. F. Gans  
H. S. Conner

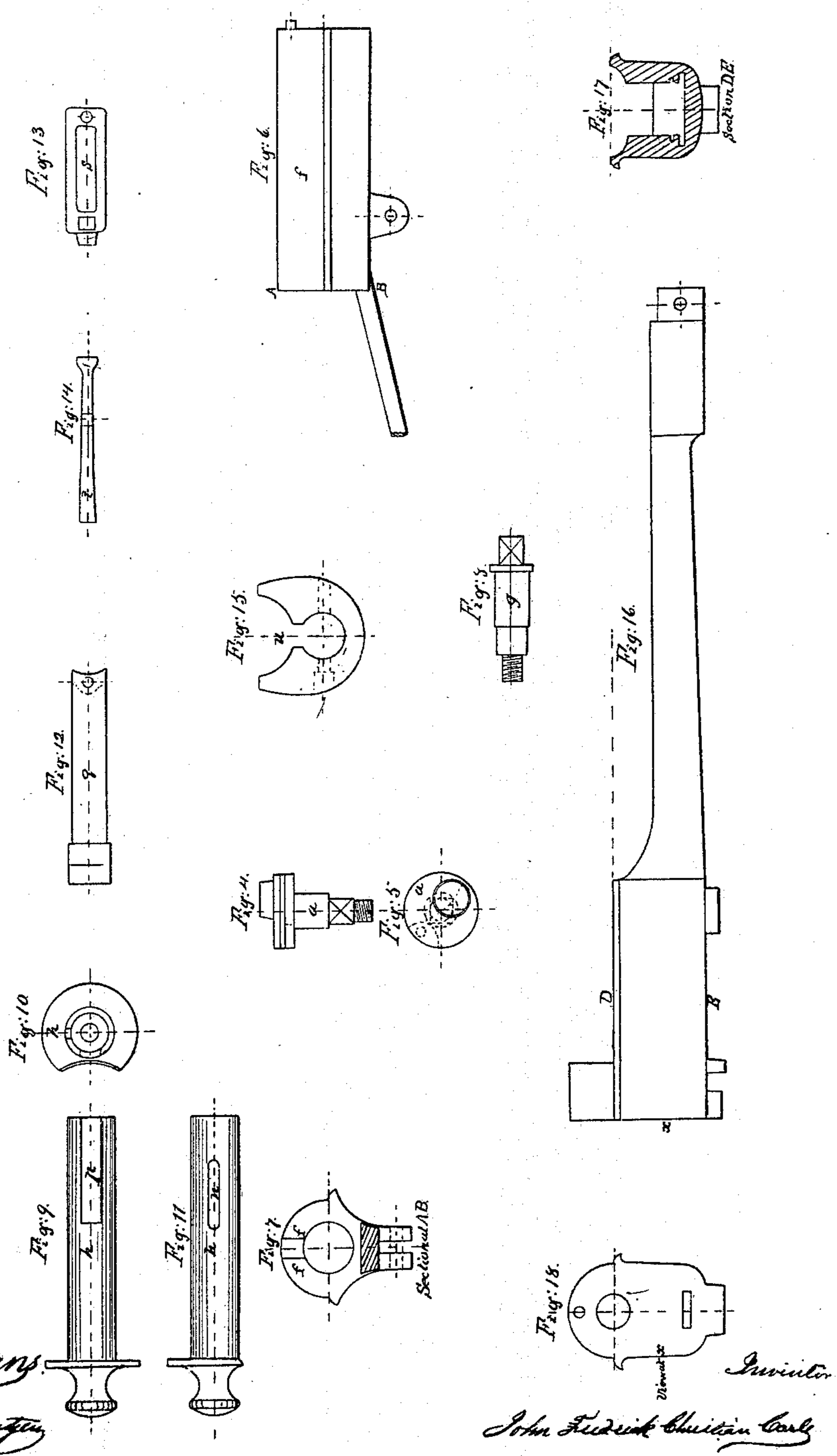
Inventor

John Frederick Christian Carle

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Witnesses  
*J. F. Gary*  
*W. B. Sawyer*

*John Frederick Christian Carle*  
 Inventor



# UNITED STATES PATENT OFFICE.

JOHN FREDRICK CHRISTIAN CARLE, OF HAMBURG, GERMANY.

## IMPROVEMENT IN BREECH-LOADING NEEDLE-GUNS.

Specification forming part of Letters Patent No. 52,938, dated February 27, 1866.

*To all whom it may concern:*

Be it known that I, JOHN FREDRICK CHRISTIAN CARLE, of Hamburg, Europe, at present temporarily residing in London, England, have invented certain new and useful Improvements in Breech-Loading Needle-Guns for Military and other Purposes; and I do hereby declare that the following is a true and exact description thereof, reference being had to the accompanying drawings, Sheets I and II, and to the letters of reference marked thereon.

My invention relates to the improved construction of needle-guns by which they are made perfectly tight, so that no gas can escape, and the whole gun rendered more simple and durable, and by which greater rapidity in firing can be obtained.

In the drawings, Figure 1 is a vertical section, Fig. 2, a plan, partly in section, and Fig. 3 horizontal section at A B, Fig. 1, of my improved needle-gun.

By reference to these drawings it will be seen that I place beneath the rear end of the barrel an eccentric, *a*, Figs. 1, 4, and 5. This eccentric *a* is so formed as to pass through to the under side of the stock, where to it (*a*) is fixed a lever, *b*.

By means of the eccentric *a* and lever *b* the barrel *e* is opened to receive the charge, and at the same time they cock the needle, as hereinafter described. At the same time, also, that the barrel is made to open by means of the eccentric and lever, the barrel is moved by them in a horizontal direction in a kind of slide-joint, *c*. This joint is so constructed as to allow the barrel *e* to assume, by its weight, the necessary position for loading. The barrel *e* is so secured by a guide-piece, *d*, that it is perfectly rigid laterally and it cannot move or assume any other position than the one indicated above.

The lock-case *f*, Figs. 1, 6, and 7, is of the same diameter as the barrel, and inside the lock-case, at the end next the barrel, I screw a collar-piece, *g*, Figs. 1 and 8. The end of this collar-piece protrudes or extends about half an inch beyond the lock-case *f*.

By placing the thumb of the hand upon the gun-barrel *e*, and moving the lever *b*, and

thereby the eccentric *a*, with the little finger of the same hand, the barrel *e* is brought back over the collar-piece *g*, so as to form a perfectly tight joint, which will allow of no escape of gas whatever, the end of the barrel *e* being slightly turned out, so as to come over the collar-piece.

The lock *h*, Figs. 9, 10, 11, consists of a cylindrical piece having thereon at one end a tapered collar. On the top of this cylindrical piece is a spring, *i*, which has an end piece or stud.

Within the cylindrical piece is a hollow plunger, *k*, through which the needle *l* passes. One end of the plunger *k* is recessed so as to form a circular groove, and around the plunger is placed a spiral spring, *m*. This spiral spring is for the purpose of giving the needle the force required to enable it to penetrate and thus ignite the charge.

On the right side of the cylindrical piece *h* is a slot, *n*, Fig. 11, in which works a pinion fixed to a spring, *o*, Fig. 2, on the outside of the lock. This spring *o* is for the purpose of securing the lock in position and also to enable the lock to be taken out.

On the under side of the cylindrical piece or lock *h*, at one end of the same, is a longitudinal slot, *p*, Fig. 9, into which passes the end of the trigger for cocking the needle *l*. At the same time the barrel is moved backward, as hereinbefore explained, by means of the lever *b* and eccentric *a*, the sliding piece *q*, Fig. 12, is moved by means of the small crooked connecting-rod *r*, and by its motion the spiral spring *m* is compressed and the needle withdrawn.

The piece *s*, Fig. 13, is for the purpose of catching or detaining the spring *m*, and the intermediate lever *t*, Fig. 14, when actuated by the trigger by means of *s*, releases the spring, and thus the gun is discharged.

A retaining-piece, *u*, Fig. 15, for the purpose of connecting barrel and stock, has through it transversely a screw. This screw forms, with the slot *v*, a kind of hinge-joint, which allows the barrel to assume the required position for loading.

The frame or piece which embraces or to

which are connected the principal working parts of the gun is denoted by *w*, and is shown separately in Figs. 16, 17, and 18.

The barrel can be cleaned without removal, or its removal can be effected by merely taking out one screw.

What I claim more particularly as of my invention, and desire to secure by Letters Patent, is—

The slide *g*, in combination with connecting-rod *r*, spiral spring *m*, upright *s*, and lever *t*, substantially in the manner and for the purpose herein set forth.

JOHN FREDRICK CHRISTIAN CARLE.

Witnesses:

T. F. GANS,

H. P. JANTZER.