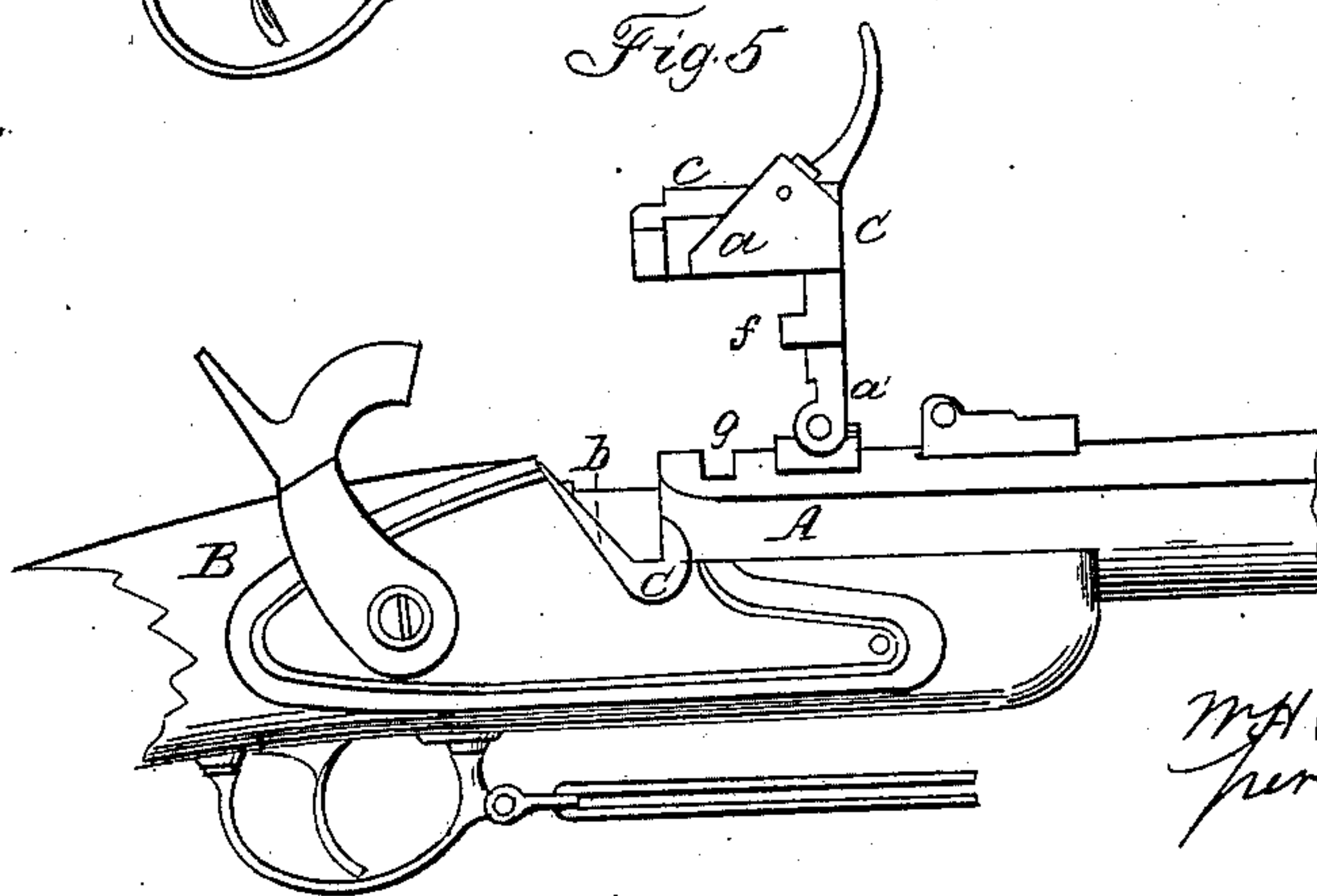
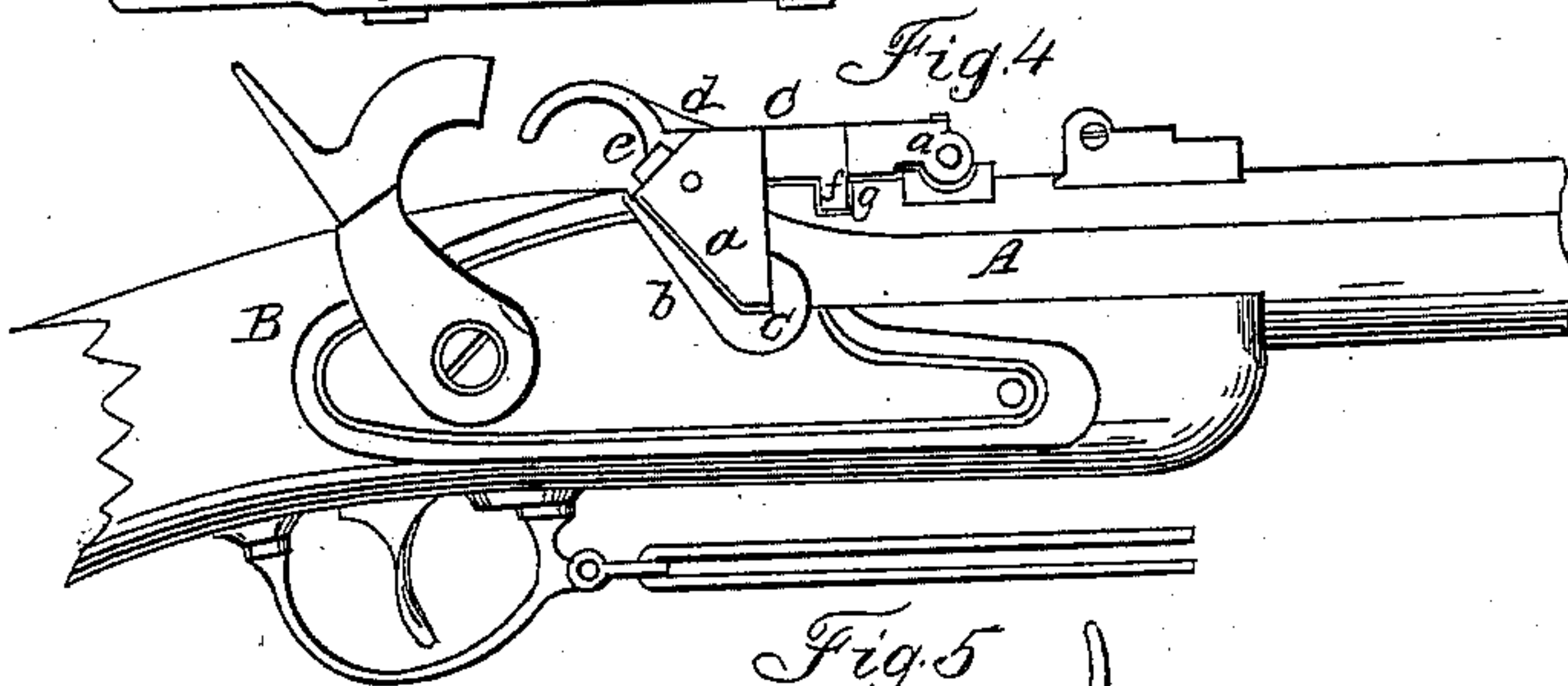
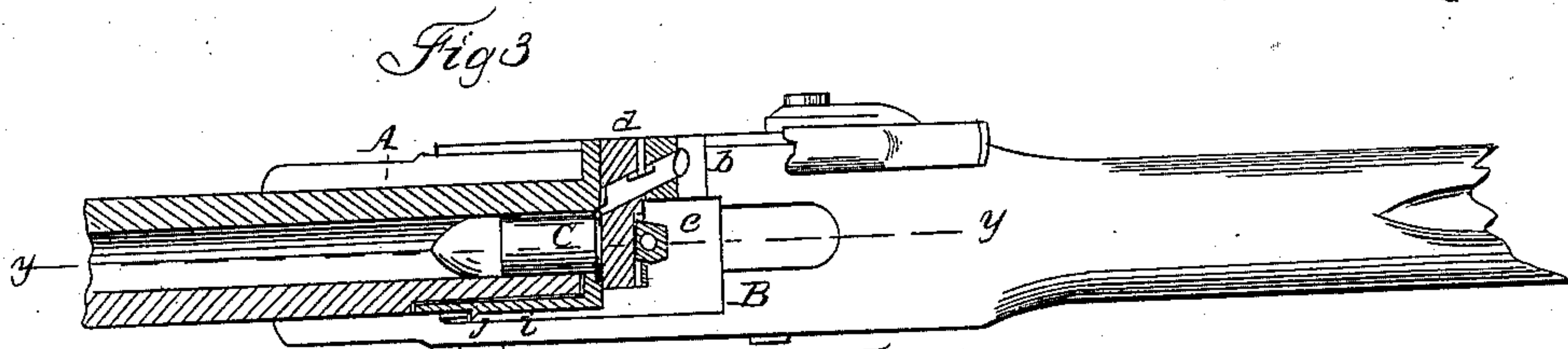
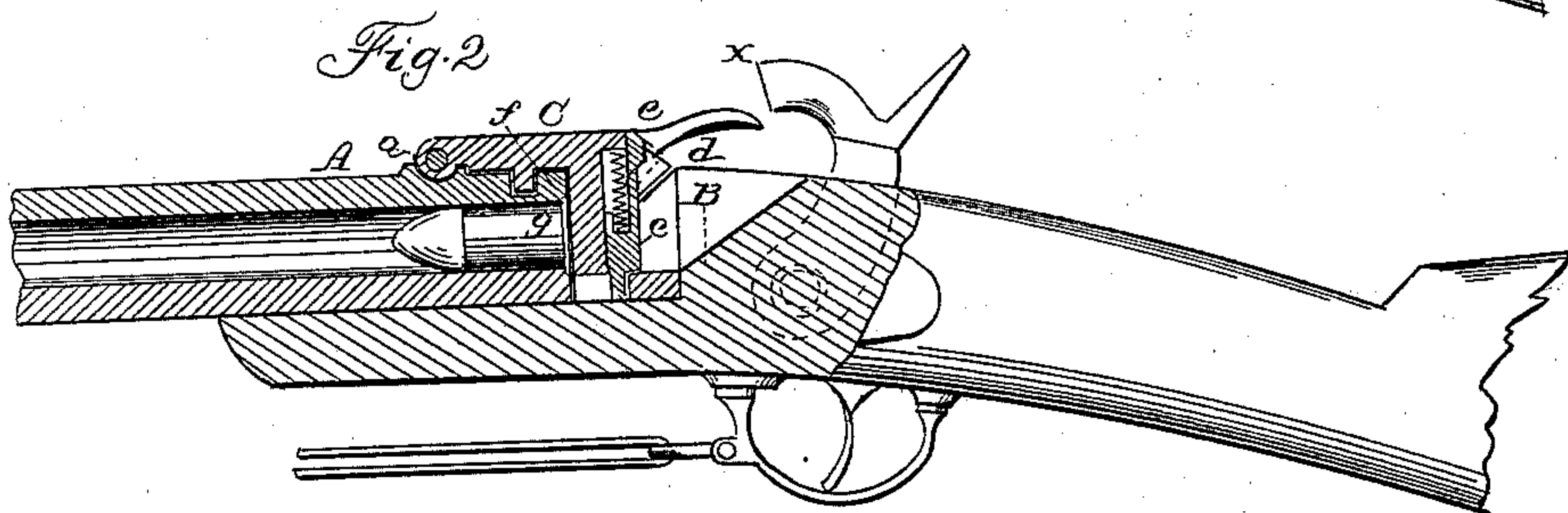
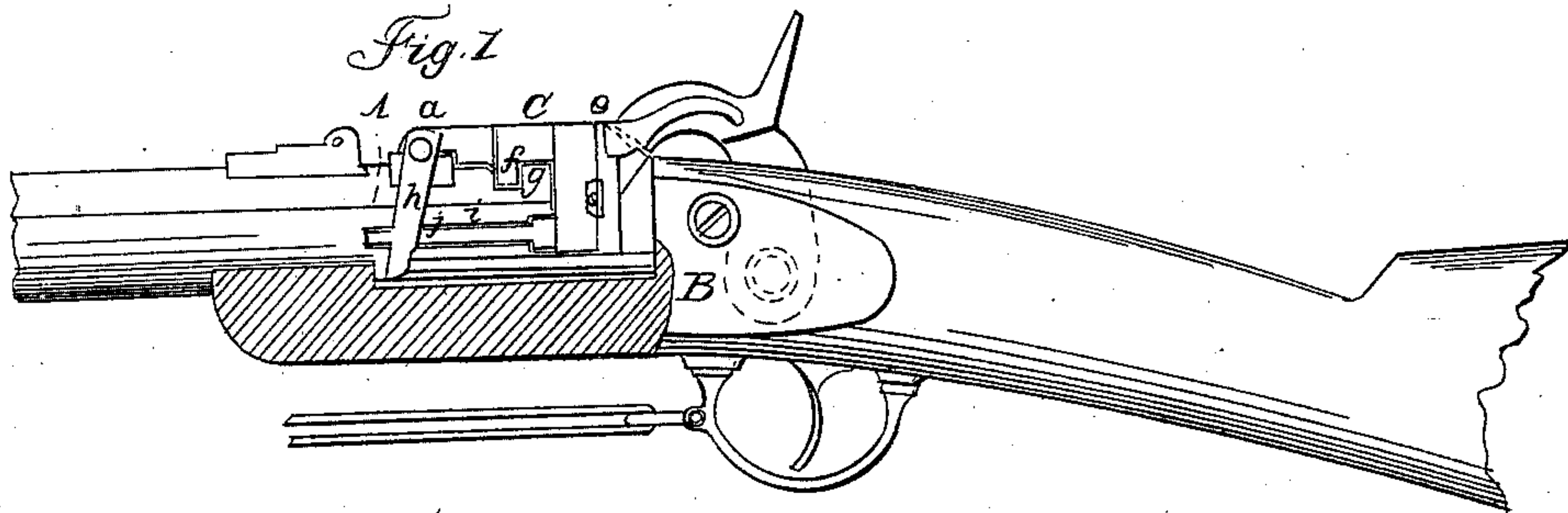


W. H. & G. W. MILLER.  
Breech-Loading Fire-Arm.

No. 47,902.

Patented May 23, 1865.



WITNESSES:

*Wm. S. Green*  
*Thos. Busch*

INVENTOR.

*W. H. & G. W. Miller*  
*per* *Mum H. C.*  
*Attorney*



# UNITED STATES PATENT OFFICE.

WM. H. MILLER AND GEO. W. MILLER, OF WEST MERIDEN, CONNECTICUT,  
ASSIGNORS TO EDMUND PARKER, OF SAME PLACE.

## IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 47,902, dated May 23, 1865.

*To all whom it may concern:*

Be it known that we, W. H. MILLER and G. W. MILLER, of West Meriden, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Breech-Loading Fire-Arms; and we 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—

Figure 1 is a side elevation of this invention, showing the connection between the hinged breech-block and the shell-extractor. Fig. 2 is a longitudinal vertical central section of the same, the line *y y*, Fig. 3, indicating the plane of section. Fig. 3 is a horizontal section of the same, taken in the plane indicated by the line *x x*, Fig. 2. Fig. 4 is a side elevation of the same, representing that side containing the hammer and lock, with the breech-block closed down and the hammer at half-cock. Fig. 5 is a similar view of the same with the breech-block open.

Similar letters of reference indicate like parts.

The object of this invention is to convert in an easy and simple manner, ordinary "Springfield muskets" into breech-loaders without disturbing the lock or any part connected therewith.

The invention consists in the application of a tapering socket in the cone-seat of a musket to receive a wedge-shaped projection extending from the side of the hinged breech-block, which swings over the top of the barrel, and with a plunger passing through said wedge-shaped projection in place of the cone, in combination with the ordinary lock and hammer, in such a manner that a cartridge placed into the barrel can be exploded by the action of said hammer without disturbing its original position or changing any other portion of the lock, and at the same time by the wedge-shaped projection a shoulder is formed which assists in holding the breech-block in place when the same is locked. A spring-bolt, with a tapering or parallel head and dropping into a corresponding seat in the breech of the barrel, serves to lock the breech-block, and, in con-

nection with a tongue or ridge projecting from the inner surface of the breech-block and catching into a notch or groove in the barrel when the breech-block is closed down, takes up the recoil and relieves the pivot connecting the breech-block with the barrel from all strain. From the hinged breech-block or from its pivot extends a spring-arm, which is applied in combination with an ejector in such a manner that on throwing the breech-block open after a cartridge has been fired the empty shell is withdrawn from the barrel and a new cartridge can be introduced without loss of time.

A represents the rear end of the barrel of an ordinary Springfield musket. This barrel is secured to the stock B in the ordinary manner, and it is converted into a breech-loader by cutting off a portion of its rear end and closing the breech by the hinged block C. This breech-block is hinged on top or side of the barrel by one or two straps, and the axis or pivot *a'*, which forms its connection with the barrel, is at right angles to the longitudinal center line of the barrel, and the breech-block, on being opened, turns back to a position shown in Fig. 5.

From one side of the breech-block extends a wedge-shaped projection, *a*, which, when the breech-block is closed, fits into a tapering seat, *b*, cut in the cone-seat *c*, as clearly shown in Fig. 4. This projection is bored out to receive the plunger *d*, by means of which the charge is exploded, and when the breech-block is down said plunger occupies the position which in the ordinary musket has been occupied by the cone or nipple, and consequently the hammer will strike the same with its full force, and no alteration is required in the construction of the lock or in the arrangement of its parts. Furthermore, by making the projection *a* wedge-shaped, it assists in keeping the breech-block tightly closed. When the breech-block is closed down, it is locked by a spring-bolt, *e*, the head of which is tapering, as shown in Fig. 2 of the drawings, and which drops into a tapering socket in the rear end of the barrel. This bolt is raised by a handle projecting from its upper end, and it is depressed by a spring, which is concealed in its interior. A ridge



or tongue, *f*, projecting from the inner surface of the breech-block and catching into a groove, *g*, in the barrel when the breech-block is closed, takes up the recoil and relieves the pivot *a'* of all strain caused by the force of the explosion. A spring-arm, *h*, which is connected to the breech-block or to the pivot on which the same swings, projects down over the side of the barrel and serves to operate the ejector *i*. This ejector slides back and forth in a recess on the side of the barrel, and it is provided with a nose, *j*, the inclined surface of which faces toward the rear end of the barrel. If the breech-block is closed down, the arm *h* slides up the inclined plane of the nose and catches over its point, and if the breech-block is raised said arm throws the ejector backward and the empty shell is removed from the barrel. In practice, a suitable spring will be connected to the ejector to draw the same back as soon as the spring-arm releases its nose. By this arrangement the operation of the ejector is rendered simple, easy, and infallible, and the musket can be fired with very great rapidity.

Our hinged breech-block can be attached

with little trouble to any musket of the ordinary construction, and such muskets are converted into breech-loaders with a comparatively small expenditure of labor.

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

1. The breech-block *C*, hinged to the top or sides of the barrel *A*, and provided with a wedge-shaped projection, *a*, to fit in a corresponding recess in the cone-seat, all the said parts being constructed substantially as herein specified, so as to admit of the conversion of a muzzle-loading to a breech-loading gun without change in the construction or arrangement of the stock, lock, or hammer.

2. The combination of the spring-bolt *e*, ridge *f*, and groove *g* with hinged breech-block *C* and barrel *A*, constructed and operating substantially as specified, and employed to sustain the recoil in form.

WM. H. MILLER.  
G. W. MILLER.

Witnesses:

GEO. A. FERY,  
ORVILLE H. PLATT.