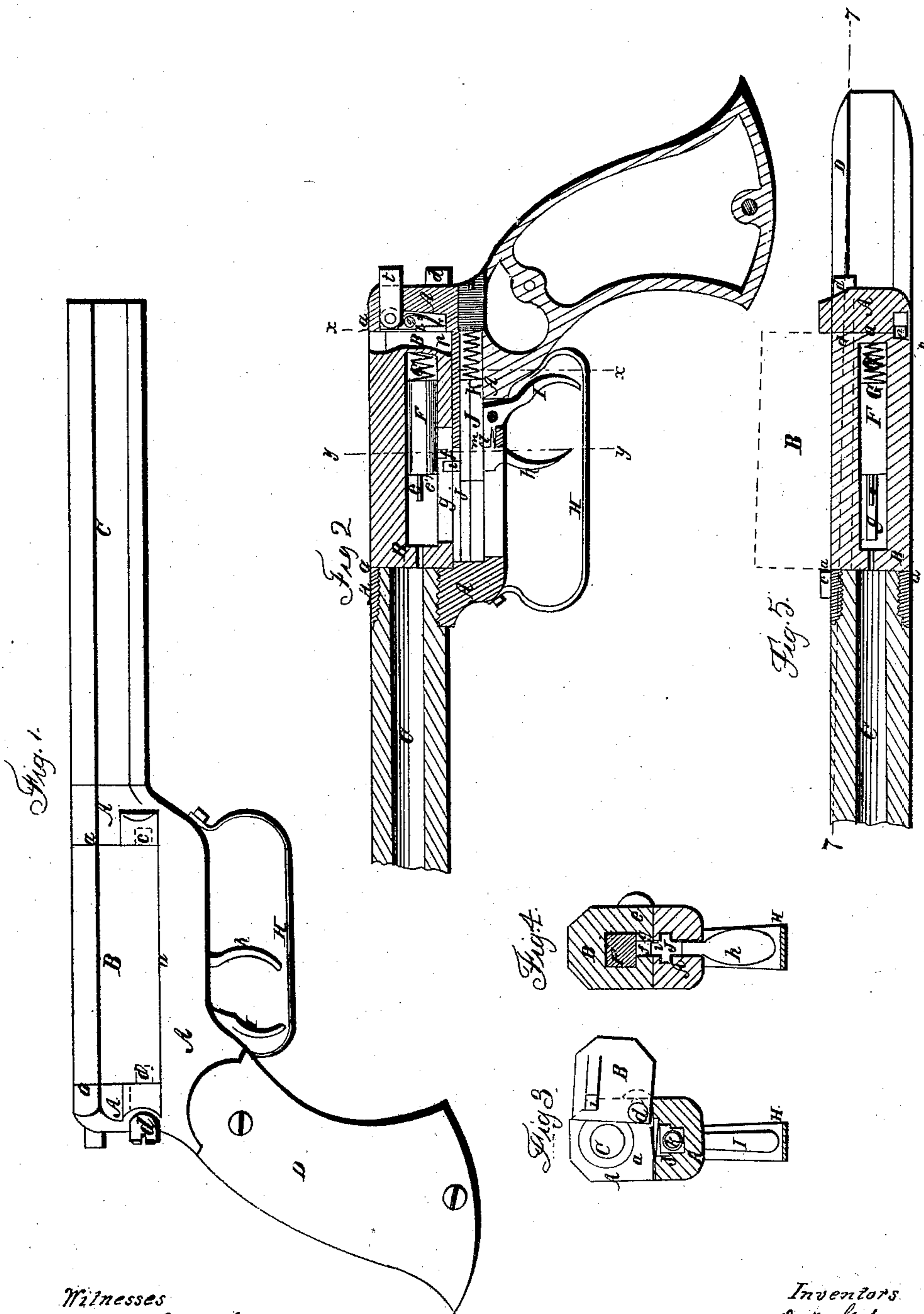


B. F. SKINNER & A. PLUMMER, Jr.

Breech-Loading Fire-Arm.

No. 34,449.

Patented Feb. 18, 1862.



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UNITED STATES PATENT OFFICE.

B. F. SKINNER AND A. PLUMMER, JR., OF MYSTIC BRIDGE, CONNECTICUT.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 34,449, dated February 18, 1862.

To all whom it may concern:

Be it known that we, B. F. SKINNER and A. PLUMMER, Jr., of Mystic Bridge, in the county of New London 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 of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of a pistol with our improvements. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a transverse section of the same in the line xx of Fig. 2, showing the breech open. Fig. 4 is a transverse section of the same in the line zz of Fig. 2, showing the breech closed. Fig. 5 is a horizontal section of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in a certain mode of applying a swinging movement upon an axis eccentric and slightly inclined to the axis of the barrel, whereby in the closing movement of said breech its front face is caused to have a slight motion toward the rear end of the barrel, and in its opening movement the said face is caused to have a corresponding motion away from the barrel.

It also consists in certain improved means of applying and cocking the hammer or other device, in combination with such a breech, to effect the explosion of the priming; and it further consists in an improved mode of setting up the breech to compensate for wear.

To enable others to make and use our invention, we will proceed to describe its construction and operation.

A is the frame, of malleable iron or other suitable metal, which receives within it the breech B and the lock, and serves to attach the barrel C to the stock D. This frame A has a recess, aa , formed all across it for the reception of the breech B, and the barrel C is secured into the portion of the said frame in front of the said recess, and has its rear end flush with the surface of A at the front end of the said recess. The breech B is of the form of a prism, fitted to fill snugly the recess aa , and it is arranged to swing between centers $c d$, near the right side of the frame A, and near the bottom of its cavity aa , the axis of the said centers

being very slightly oblique to the axis of the barrel, as shown in the top view, Fig. 5, where the said axis is represented by a dotted line, 7 7. This obliquity of the axis causes the front face of B to move in a slightly-rearward direction relatively to the barrel in the act of opening, and in a forward direction relatively thereto in the act of closing, as illustrated by the representation of the breech in Fig. 5, in an open condition in dotted outline and in a closed condition in bold outline. This action causes the breech to open easily and without perceptible friction, and yet allows it to close very tightly against the barrel.

The centers $c d$ may be constructed and fitted in various ways; but we have represented the male center c as made solid on the front end of the breech, entering a female center in the front part of frame A, and the male center d as composed of a screw screwing through the rear portion of the frame A into a female center in the rear of the breech. By this arrangement the screw d may be caused to press against the rear end of B, and thus force its front end in contact with the end of the barrel, even if the breech B, either by accident or wear, does not tightly fill the recess in A. This is a highly necessary adjustment, as the breech-loaders heretofore constructed were liable to leak at the breech after a little wear.

The charge of powder and ball contained in a cartridge (which also contains or carries a percussion priming) is inserted in the barrel while the breech is opened, in the manner illustrated in Fig. 3 and in dotted outline in Fig. 5, and when the breech is returned to the position shown in Figs. 1, 2, and 4 and in bold outline in Fig. 5 it is locked by means of the dog p , which is formed on the lower end of a small lever, L, working on a fulcrum-pin, q , in a mortise, r , in the back of the recess aa in the frame A. This dog is forced into a notch, v , Figs. 3 and 5, in the rear end of the breech B, to lock the breech in its closed condition, by means of a spring, s , applied behind the lever L, in the mortise r .

Attached to the upper end of the lever L there is a knob, t , which protrudes through the rear of the frame A in such a position that it can be conveniently pressed forward by the thumb of the right hand while the piece is grasped in that hand in the usual manner. By

pressing forward this knob the dog *p* is drawn back and the breech unlocked, so that it can be moved to the position shown in Fig. 3, either by applying the thumb of the left hand or by means of a spring, *u*, applied at the bottom of the recess *a a*. The dog *p* is so beveled that when the breech is moved back to the position shown in Fig. 4 it yields to the breech until the notch *v* arrives opposite to it.

The hammer or device for exploding the percussion priming is fitted to slide within the breech B. The device represented for this purpose in the drawings is a needle, *e*, attached to a sliding bolt, F, behind which there is placed, within the breech, the coiled mainspring G, Figs. 2 and 5, and from the bottom of which there projects a tooth, *f*, which works in a slot, *g*, in the bottom of the breech.

The cocking is effected by means of a trigger, *h*, working within the same trigger-guard, H, within which the discharging-trigger I works. This trigger *h* is attached to a slide, J, which works within the lower part of the frame A, and which has attached to its upper side a tooth, *i*, which protrudes through a slot, *j*, in the frame A, to act upon the tooth *f* on the needle-bolt F, and the said slide has applied in rear of it, within the frame A, a spiral spring, *k*, which exerts a constant tendency to drive it forward. The discharging-trigger I acts upon the bolt F or upon a hammer applied in the same manner through the slide J, the said trigger having at its front end a hooked sear, *l*, which enters a notch, *m*, in the said slide.

To cock the bolt F or hammer, the trigger *h* is pulled back by the forefinger of the right hand, to draw back the slide J, and the tooth *i* of the said slide acts upon the tooth *f* of the bolt or hammer to draw back the latter. When the slide and bolt or hammer have been drawn back far enough, the sear *l* enters the notch *m* and prevents them from returning until the trigger I is pulled, when the spring *k* drives forward the slide J and the mainspring G drives forward the bolt F or hammer. The trigger I has applied to it a spring, *n*, to force it upward against the slide J and into the

notch *m*. The spring *k* tends to keep the slide J always at its extreme forward position, and the spring G tends to keep F in its corresponding position; but by the operation of the back-action spring *e'* on its forward end it is held back, except at the moment of the discharge, sufficiently to keep the end of the needle *e* slightly within F, so as to allow B to be moved. When the breech B is opened for inserting a cartridge, the tooth *f* is withdrawn from *i*, and F and J become entirely disconnected; but as each is held in its proper position by its respective spring, when the breech B is again closed *f* falls in the rear of *i* in the proper condition for cocking. The spring *k* also prevents any friction on the slide J from retarding the motion of the hammer or slide F.

By screwing up the back center screw, *d*, the breech may be set up, whenever desirable, to compensate for wear, and the said screw also serves at all times to adjust the face of the breech to the front face of the recess *a a* and rear end of the barrel.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The arrangement of the eccentric axis of the swinging breech in a position oblique to the axis of the bore or barrel, substantially as and for the purpose herein specified.

2. The combination of the needle-bolt or hammer F, with its spring G, inclosed in the swinging breech B, with the slide J and triggers *h* and I in the frame A, or their equivalents, operating substantially as herein described.

3. Though we do not claim, broadly, setting up the breech of a breech-loading fire-arm by means of a screw, we claim the employment, for setting up the breech, of a screw, *d*, which also serves as one of two centers on which the breech swings to open and close, substantially as and for the purpose herein specified.

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Witnesses:

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