(18.)

B. B. Kolchkiss,

Fire Arm,

No. 122,465.

Patented Jan. 2, 1872.

Fig. 1,

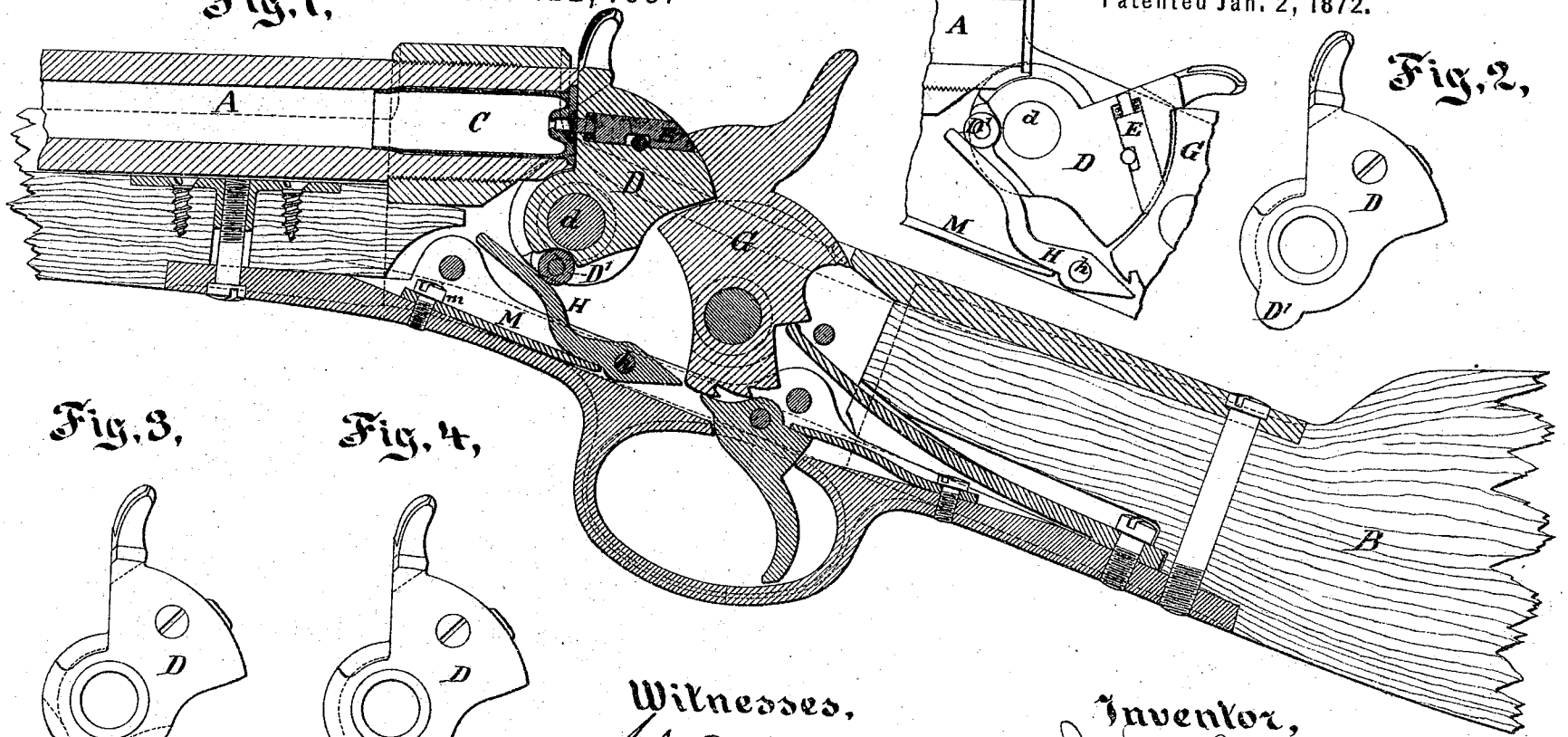


Fig. 5,

Fig. 2,

Fig. 3,

Fig. 4,

Witnesses,

A. Hoerrmann.

C. C. Livings

Inventor,

B. B. Kolchkiss

by his attorney J. L. Stetson

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UNITED STATES PATENT OFFICE.

BENJAMIN B. HOTCHKISS, OF NEW YORK, N. Y.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 122,465, dated January 2, 1872.

To all whom it may concern:

Be it known that I, BENJAMIN B. HOTCHKISS, of New York city, State of New York, temporarily residing at Vienna, Austria, have invented certain new and useful Improvements in Breech-Loading Fire-Arms; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, which forms a part of this specification.

I employ a swinging breech-block and the means for operating it. I employ a single spring to hold the breech-block gently forward in its position against the cartridge when the breech is closed, and to throw the same smartly backward when the breech is pulled open. It is highly simple and effective. The backward motion throws out the shell of the exploded cartridge.

I will proceed to describe what I consider the best means for carrying out my invention.

The accompanying drawing forms a part of this specification.

Figure 1 is a longitudinal section of the entire mechanism at the breech. Figs. 2, 3, and 4 show modifications of the breech-block, intended to serve substantially the same purposes. Fig. 5 is an outline drawing, showing the position of the breech-block and the spring when the breech is open.

Similar letters of reference refer to corresponding parts in the drawing.

A is the barrel, and B is the stock of the gun. C is the shell of the portion of the cartridge which has been fired by the concussion of the firing-pin E mounted in the swinging breech-block D. The latter turns on a stout center pin, *d*, and is adapted to be strongly held in its place at the time of firing by a strong shoulder on the hammer G, which may be operated in any ordinary or suitable manner. M is a flat spring of tempered steel, secured at the point *m* and acted on by a lever, H, which turns on a pivot, *h*. It tends to press the front end of the lever upward against the bottom of the swinging breech-block D. This bottom is provided with a roller or projection, D′, which bears on the lever H, and by means of which the force of the spring is made available to hold the breech-block forward when it is forward, and backward when it is back, and to move in either direction when it is pushed a little past a certain neutral point. In Fig. 1, D′ is a roller recessed into the base of the breech-block, and adapted to turn easily on an axis, which is carried in the breech-block, as indicated. In Fig. 2 there is a corresponding round projection in the same position on the breech-block, and serving in a manner analogous to that of the roller, but involving a greater amount of friction. In Fig. 3 there is substituted for the roller D′ a nearly sharp ridge or angular projection formed in the material by grooving or milling out a portion of the material in front and rear. In Fig. 4 a corresponding point is formed by an absolute projection beyond the general cylindrical form of that portion of the breech-block. With either form roller D′ or the equivalent projection is pressed forcibly upward and slightly backward by the lever H when the breech-block D is in its forward position, closing the breech. When, after cocking the piece, the thumb is applied to draw back the breech-block D the first portion of the movement of D depresses the lever H slightly; then a further movement keeps the lever H stationary. It is in that period in what I have termed its neutral position, acting neither to turn the breech-block D forward nor backward. Now, a further drawing of the breech-block backward by the thumb brings it in a position where the lever H will commence to rise again under the powerful influence of the spring M, and now it will be found that its influence will be exerted to throw the breech-block D smartly back and allow the lever H and spring M to rise rapidly. This active movement jerks out the shell of the cartridge by any ordinary hooking or suitable means, (not represented,) which, it will be understood, is attached to and operated by the breech-block D, and the breech will remain open until, a new cartridge having been introduced, it is desired to again close the breech. Now, the application of the thumb turns the breech-block D forcibly forward by pressing the lever H and spring M until, again having passed its neutral position, it is, by the action of the spring and lever, inclined actively forward. This voluntary forward movement may be, and should be, much less than the voluntary backward movement.

Springs have been before employed to hold the breech-block closed; but I am not aware that they have been arranged like mine, so as to operate it in both directions by a single spring in the simple and effective manner which I have devised.

The upper face of the lever H may be finished by filing or milling with various degrees of inclination and curvature, so as to bring the neutral point further forward or further back, or to prolong or shorten the space during which the spring is neutral in its action. I esteem the lever H very important for this and other reasons; but I can realize some portion of benefit from my invention by allowing a spring analogous to this spring to act directly against the roller D.

I claim—

A breech-loading arm having a swinging breech-block, D D′, operated by the aid of a spring piece, H, under an arrangement, substantially as shown and described, whereby the breech is held closed, and thrown actively open as soon as it is fairly started by the hand.

In testimony whereof I have hereunto set my name in presence of two subscribing witnesses.

Witnesses: B. B. HOTCHKISS.

K. CHICKERING,

THOS. STEPHENS. (18)