

B. S. ROBERTS.
Breech-Loading Fire-Arm.

No. 65,607.

Patented June 11, 1867.

Fig: 1.

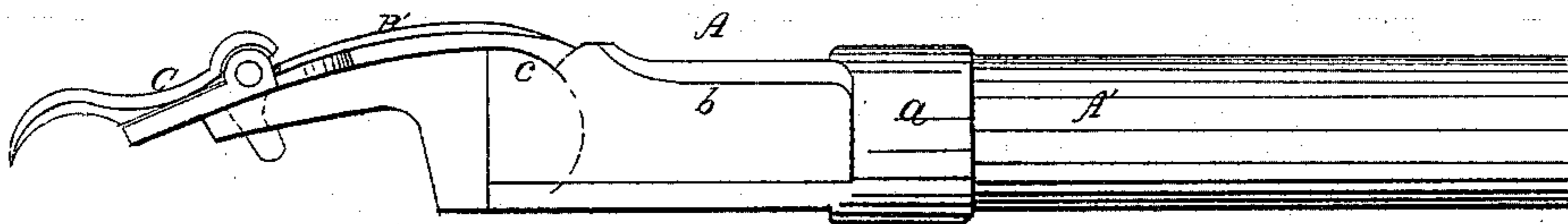


Fig: 2.

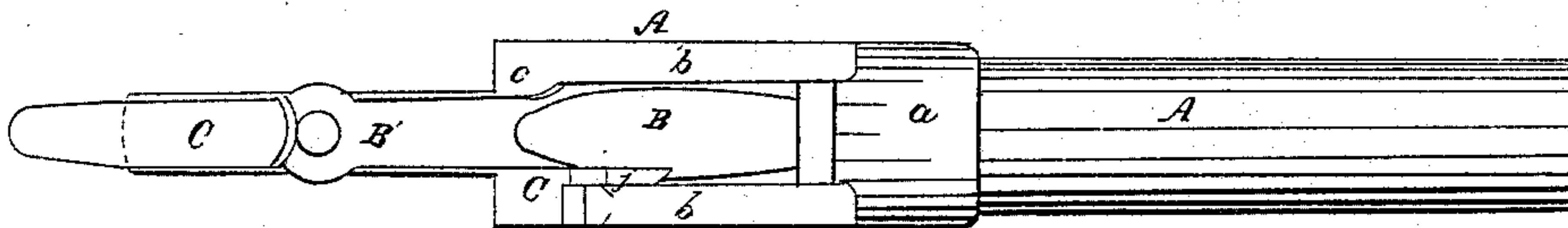


Fig: 3.

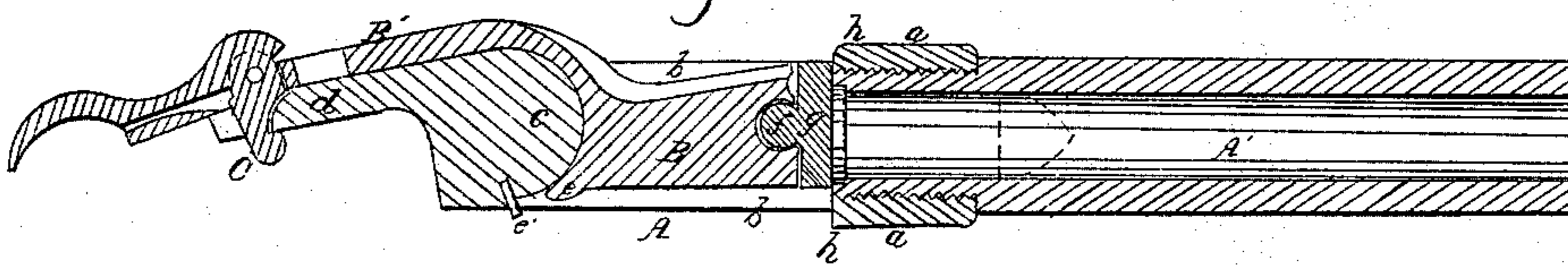


Fig: 4.

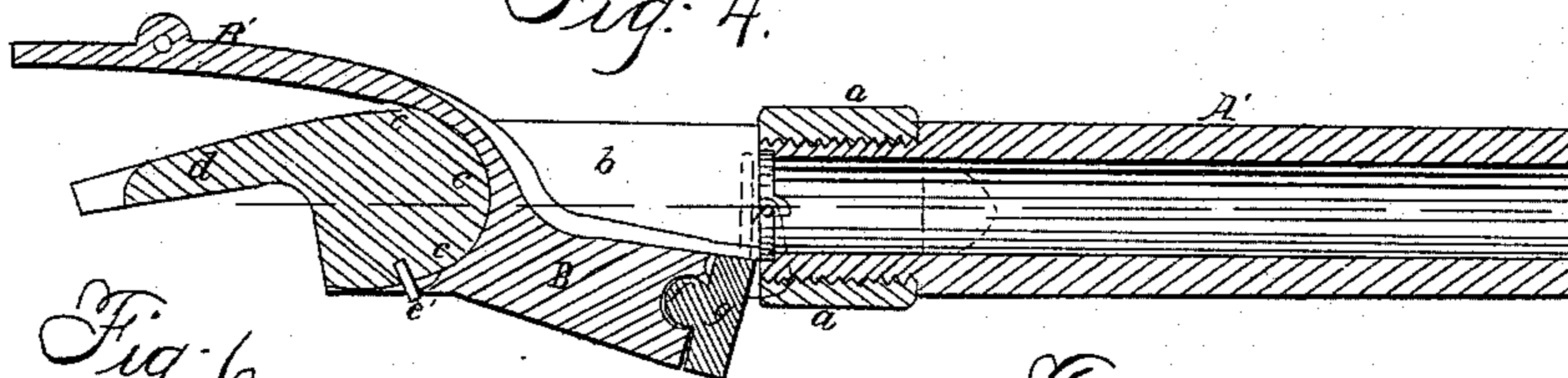


Fig: 6.

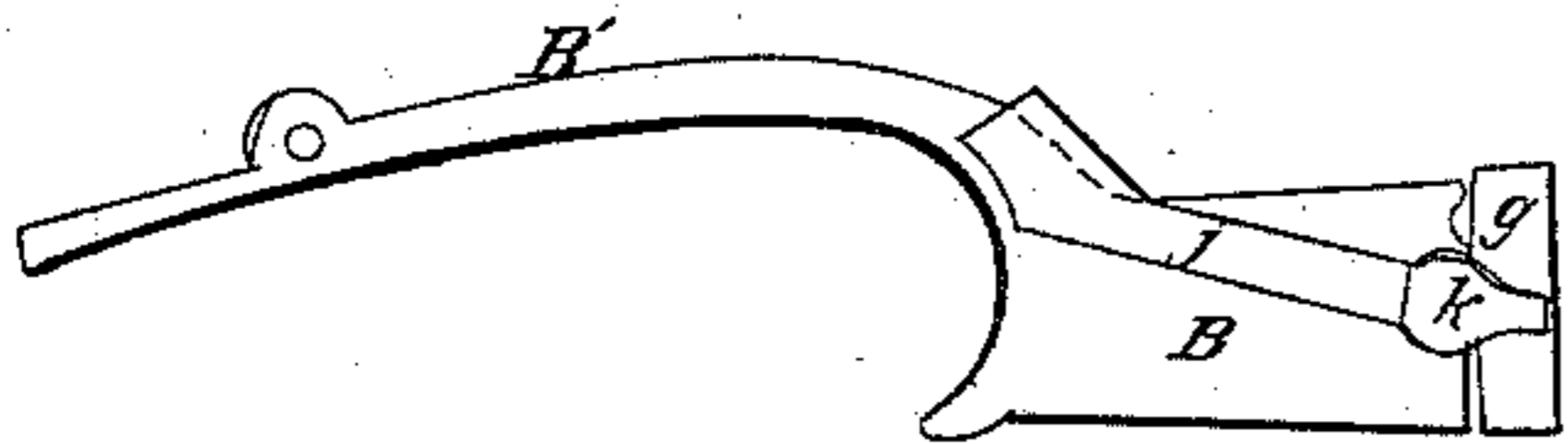
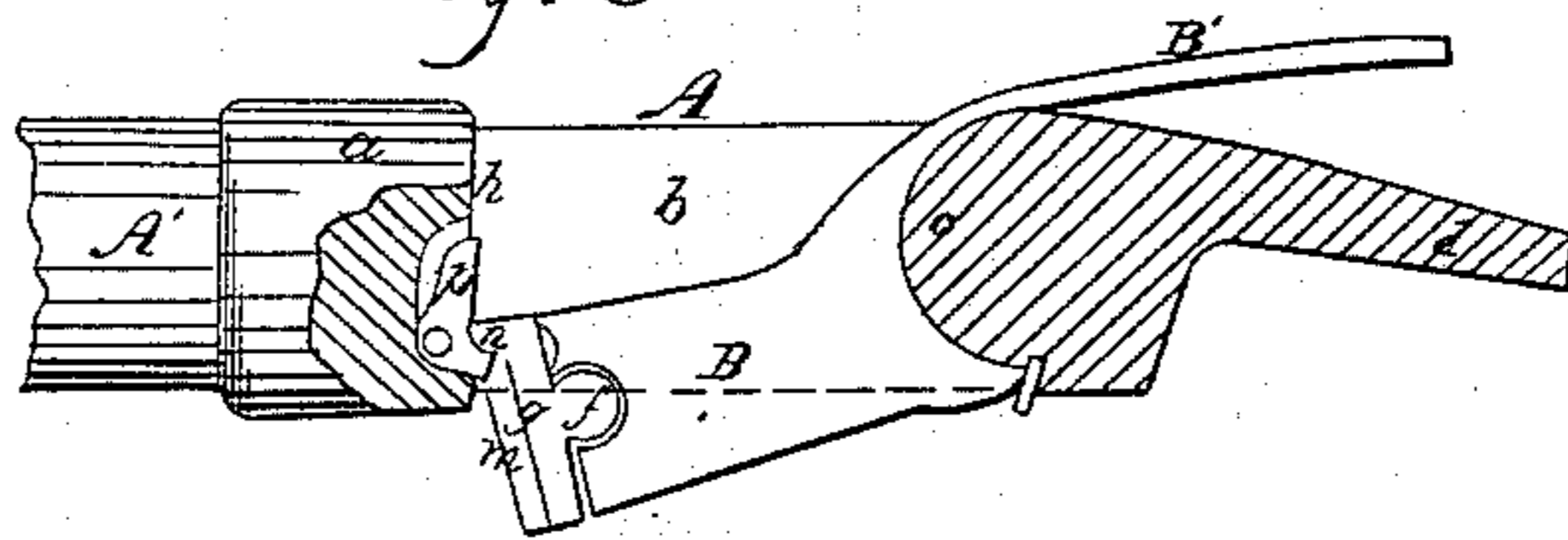


Fig: 5.



Witnesses.
W. J. Campbell
Edw. Schyler

Inventor,
B. S. Roberts
by
Mason Fenwick & Laurence

UNITED STATES PATENT OFFICE.

BENJAMIN S. ROBERTS, OF UNITED STATES ARMY.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 65,607, dated June 11, 1867.

To all whom it may concern:

Be it known that I, B. S. ROBERTS, of the United States Army, have invented a new and Improved Breech-Loading Fire-Arm; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of my invention applied to a breech-frame and portion of a barrel of a fire-arm. Fig. 2 is a top view. Fig. 3 is a longitudinal section taken vertically through the center of the arm. Fig. 4 is a similar view of the same parts, with the breech-piece thrown down to expose the breech of the barrel. Fig. 5 is a sectional view, showing the mode of extracting the cartridge-shells from the barrel. Fig. 6 is a side view of the breech-piece, showing the application of the firing-pin to it.

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

This invention relates to certain novel improvements on my patent for breech-loading fire-arms, and is designed for more perfectly carrying out the principle therein set forth, of opening and closing the breech of a barrel with a pivoted swinging breech-section, which is constructed with a flat forward end, that will fit squarely against the breech of the barrel and cartridge-shell when in place in line with the barrel, and which is so applied to the frame of the barrel that when in position for firing the piece this section will be sustained by a solid abutment of said frame.

The object of this invention is to employ a breech-piece which swings about a curved abutment formed on the frame to which the barrel is secured, and to apply to the front end of this breech-piece a rocking block having a flat face, which will fit squarely against the breech end of the barrel when in line therewith, and which will allow of the swinging of the breech-piece in the act of opening and closing the rear end of the barrel, as will be hereinafter described.

Another object of my invention is to employ a sliding firing-pin in conjunction with a swinging breech-piece having a rocking block applied to its front end, said firing-pin being provided with a striking-piece, which will ac-

commodate itself to the motions of the rocking block, and, when in proper position, transmit the blow upon the firing-pin to the flange of the cartridge, and ignite the powder therein, as will be hereinafter described.

Another object of my invention is to effect the extraction or loosening of the cartridge-shell in the barrel at the moment the breech-piece is moved to a position for allowing of the escape of the shell, by having the rocking block on the breech-piece strike one end of a pivoted plate which lies in front of the flange of such shell at such moment, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents a solid breech-frame, consisting of the re-enforce *a*, into which the rear end of the barrel A' is screwed for giving strength to the barrel at this point, two parallel cheeks, *b b*, between which the breech-piece is supported laterally, and a solid abutment, *c*, which has its front face rounded concentric to the axis of motion of the breech-piece, and which terminates in a tang, *d*, to which the lever-latch is connected.

Within the space formed between the two cheeks *b b* of frame A is a breech-piece, B, the rear end of which is curved, so as to fit snugly and move upon the corresponding convex surface *c*, and from the upper portion of this end a curved lever, B', projects backward, and, when down in place, fits snugly upon the upper solid face of abutment *c* and tang *d*, as shown in Figs. 1 and 3.

The lower rear corner of the breech-piece B terminates in a lip, *e*, which, when the breech-piece is fully depressed, as shown in Figs. 4 and 5, will strike against a pin, *e'*, and thus prevent further descent of said breech-piece. The breech-piece is thus caused to move about a concentric abutment, instead of being connected to a pivot, thus affording greater strength and admitting of the use of a very short breech-piece.

The forward end of the breech-piece B has a semicircular groove formed transversely in it, for receiving a corresponding tenon, *f*, which is formed on a block, *g*, as shown in Figs. 3,

4, and 5. The front face of this block *g* is flat, so that when in the position shown in Fig. 3 this face will fit squarely against the vertical face *h*, and also against the butt-end of the cartridge-shell. A sufficient space is left between the rear surface of the block *g* and front surface of the breech-block *B* to allow this block a rocking movement, so that when the front end of block *B* is depressed to expose the breech of the barrel *A'*, the block *g* will move perpendicularly downward for a short distance, and then swing in the arc of a circle with the breech-block *B*. In ascending to its former position block *g* makes the same movement as described.

The distance from the axis of motion of the breech-piece *B* to the center of the front end of the rocking block *g* should be equal to the distance from said axis to a point touching the center of the butt of the cartridge-shell when the latter is in place, as shown in Fig. 3. This renders it necessary to leave such a space between the blocks *B* and *g* as will allow the upper end of the latter to recede as it descends. The position of the breech-block *B*, when latched down by the latch *C*, as shown in Fig. 3, is such that the recoil of the discharge is received directly upon the solid abutment *c*.

The upper surface of the breech-block and rocking block is grooved longitudinally, so as to allow space in rear of the barrel, when the block *B* is depressed, for the backward escape of the cartridge-shell, and also for the insertion of a ball-cartridge.

On one side of the breech-piece *B* an inclined groove is formed, in which is inserted a firing-pin, *j*, upon the upper end of which the hammer strikes. The lower end of this pin *j* abuts against a wedge-shaped pin, *k*, which is fitted into a recess formed in the rocking block *g*, as shown in Fig. 6.

Pin *k* is allowed to have a slight endwise movement in its recess, so that when struck by pin *j* its front end will strike the flange of

the cartridge and ignite the powder therein. This pin *k* is also allowed to rock with the block *g* in opening and closing the breech of the barrel.

On the opposite side of the breech-piece *g* a groove, *m*, is made, leaving a lip, *n*, and in this groove the lower end of an extracting-plate, *p*, projects. This plate is pivoted in a recess formed in one side of the barrel, so that its upper end shall lie closely in the annular groove which is made in the barrel, to receive the flange on the cartridges. The upper end of plate *p* is thus arranged in such a position that when a cartridge is inserted in the rear end of the barrel said plate will fall in front of the flange on this cartridge. When lever *B'* is suddenly raised the lip *n* will strike the lower projecting end of the plate *p*, and thus thrust backward the upper end of this plate, and with it the cartridge-shell.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a breech-piece, *B*, which swings about a curved abutment, *c*, a rocking block, *g*, so applied to said breech-piece as to allow of the opening and closing of the breech of the barrel for the insertion and withdrawal of a cartridge, substantially as described.

2. The lever *B'*, formed on the rear curved end of the swinging breech-piece *B*, and adapted to move about the solid abutment *c*, in combination with a rocking block, *g*, which will admit of the opening and closing of the breech, substantially as described.

3. The groove *m* in the rocking block *g*, operating on the lever at the shoulder *n*, so as to extract the cartridge, substantially as described.

BENJ. S. ROBERTS.

Witnesses:

GEORGE POMUTZ,
OSCAR G. SAWYER.