

D. SMITH.
Breech-Loading Fire-Arms.

No. 138,207.

Patented April 22, 1873.

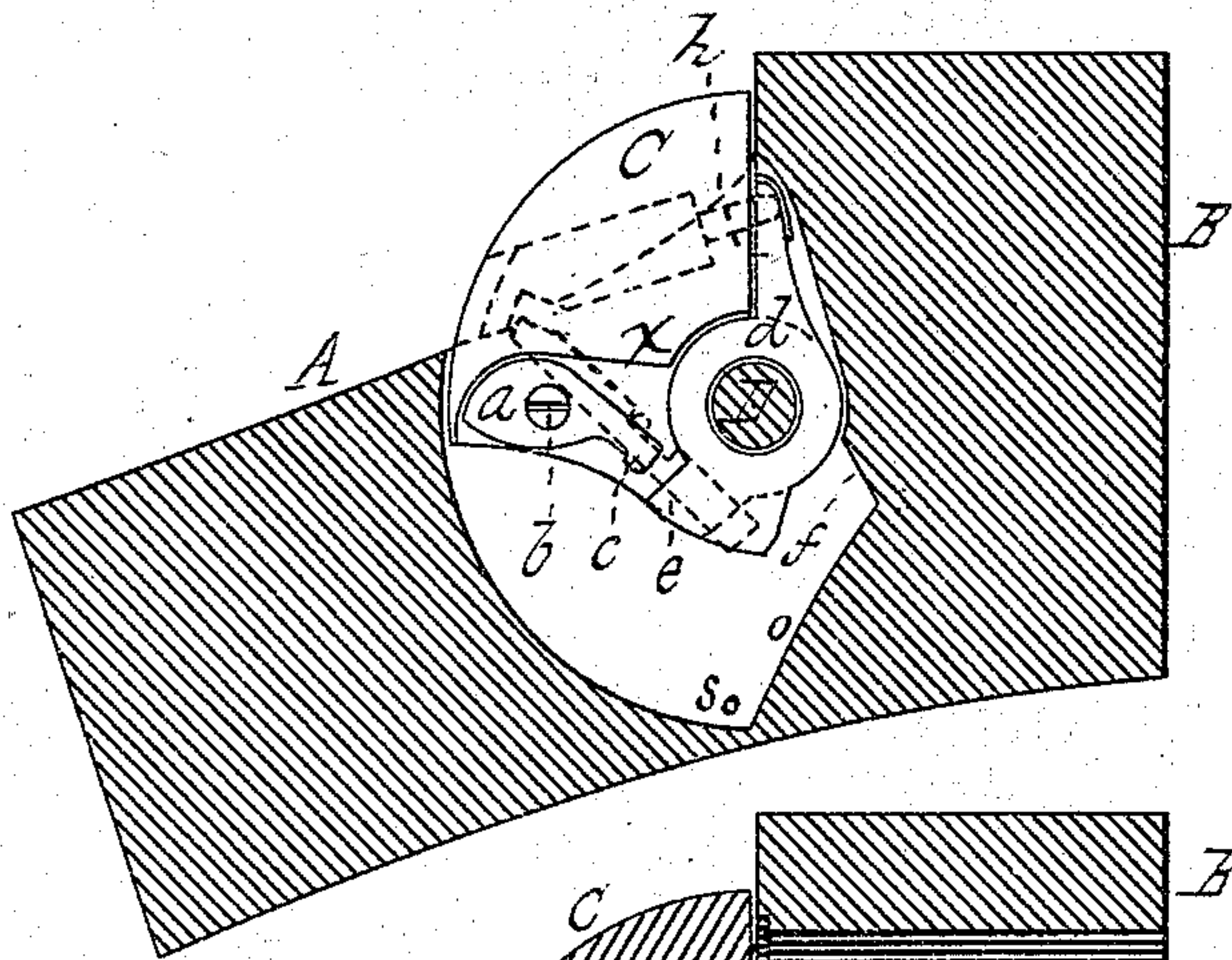


Fig. 1.

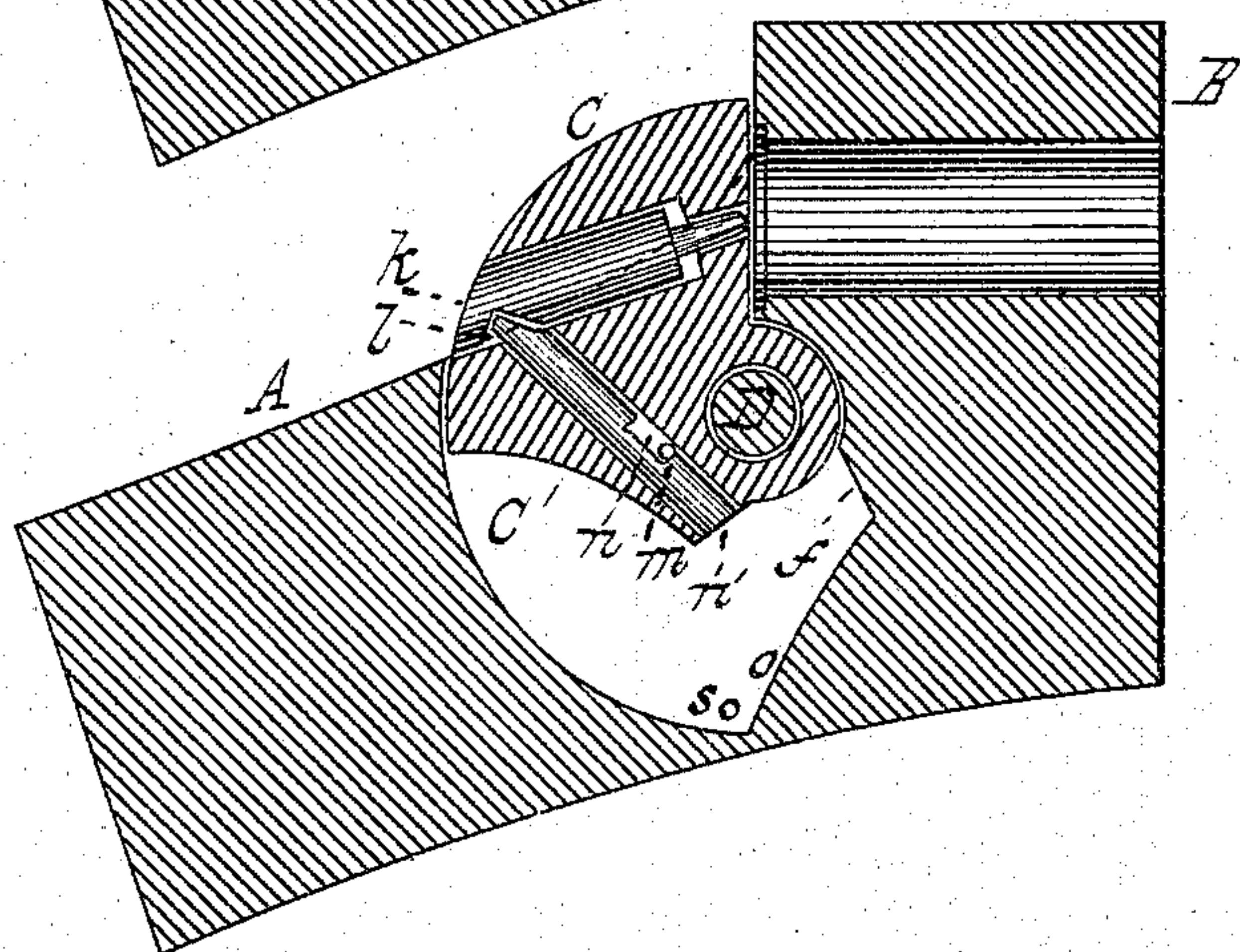


Fig. 2.

Witnesses,

Dexter Smith, Inventor,

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UNITED STATES PATENT OFFICE.

DEXTER SMITH, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **138,207**, dated April 22, 1873; application filed April 4, 1873.

To all whom it may concern:

Be it known that I, DEXTER SMITH, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Fire-Arms; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification and to the letters of reference marked thereon, in which—

Figure 1 is a longitudinal section of the gun, showing a side view of the breech-block and showing the extractor and accelerating-lever arranged thereon; and Fig. 2 is a longitudinal section through the gun and the breech-block, showing the fire-pin and the sliding-bar which operates to force the pin back.

My invention relates to the system of breech-loading guns wherein the breech-block swings backward and downward in opening; and it consists of devices, as hereinafter described, which operate to draw the empty cartridge-shell from the barrel by an accelerated movement and to force back the fire-pin by a downward movement of the breech-block.

That others skilled in the art may be able to make and use my invention, I will proceed to describe the same.

In the drawing, B represents the barrel of the gun, and A the frame, in which is pivoted the breech-block C containing the fire-pin *k*, which has a notch, *l*, made therein on its lower side. The block has a hole therein, into which is inserted the sliding bar *m'* provided with a recess, *n*, and a small pin or stop, *m*, is inserted through the block, passing through said recess *n* to prevent the bar from dropping entirely out of its place in the block, and the upper end of the pin engages with the notch *l* in the fire-pin *k*. The side of the block C is recessed to receive the extractor *d* and lever *a*, and the extractor, which hangs upon the pivot D upon which the breech-block swings, is provided at its lower end with a projection, *e*. The lever *a* is pivoted at *b* in the recess, with the end of its long arm just above the projection *e* of the extractor, and said lever is so formed that when its long arm is moved up against the side *x* of the recess in which the said lever swings its shorter arm, extending to the rear, also extends down a little below the lower rear part of the breech-

block. The finger *h* of the extractor is of the usual form, a recess being made in the rear end of the barrel to receive it, so that when the breech-block is up in place, with a cartridge inserted, the end of the finger will be inside the flange.

The operation of my invention is as follows: If the fire-pin mechanism and the breech-block is in position shown in Fig. 2 and the fire-pin be struck by the hammer of the gun, it will be forced in against the cartridge, and the sliding bar *m'*—if not already dropped down away from the fire-pin, and with its lower end protruding from the breech-block—will be forced into that position by the blow; and when the breech-block is moved down and away from the rear of the barrel the lower end of the sliding bar *m'* will strike against the side *f* of the recess in which the breech-block moves, and the bar, being thereby forced in against the rear part of the notch *l* of the fire-pin, the latter is forced back to the position shown in Fig. 2. The position of the fire-pin and sliding bar when forced forward, is shown in dotted lines in Fig. 1. When the sliding bar is in this lowest position, as shown in dotted lines in Fig. 1, to permit the fire-pin to be driven in to explode the cartridge its upper end is still within the notch *l* of the fire-pin and operating to prevent the pin from dropping out of its socket or recess in the block.

In withdrawing a shell from the barrel, the parts being in position shown in Fig. 1, the block is moved down and away from the rear of the barrel until the end of the long arm of the lever *a* is moved, by its contact with the projection *e* on the extractor, against the side *x* of the recess in the side of the breech-block, and, the block still moving down, the extractor is moved also until the shell is well started, and, the block being moved entirely down, the short rear arm of the lever strikes against a small pin, *s*, set in the same side of the frame in which the lever *a* operates, which throws the long arm of the lever quickly against the projection *e*, giving the extractor a quick rotary movement, which accelerates the movement of the shell outward, and throwing it clear of the gun.

Instead of this pin *s* being set in the frame projecting into the recess C', the short or rear

arm of the lever *a* may strike against the side *o* of the recess, which will give the same accelerated movement to the extractor as the pin *s* would give. The sliding bar also may strike against a pin set in the frame, to form a shoulder, instead of against the side *f* of the recess, as above described, without departing from the principle of operation.

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

1. As a means of giving the extractor an accelerated movement, the lever *a* pivoted to

the breech-block and operating against a stop, *s*, or its equivalent, by the downward movement of said block, substantially as described.

2. As a means of forcing back the fire-pin, the sliding bar *m'*, operating in the breech-block and against the frame, or a shoulder therein, by the downward movement of the said block, substantially as set forth.

DEXTER SMITH.

Witnesses:

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