(No Model.)

2 Sheets—Sheet 1.

J. H. BROWN.

BREECH LOADING FIRE ARM.

No. 290,737. Patented Dec. 25, 1883.

Fig. 1.

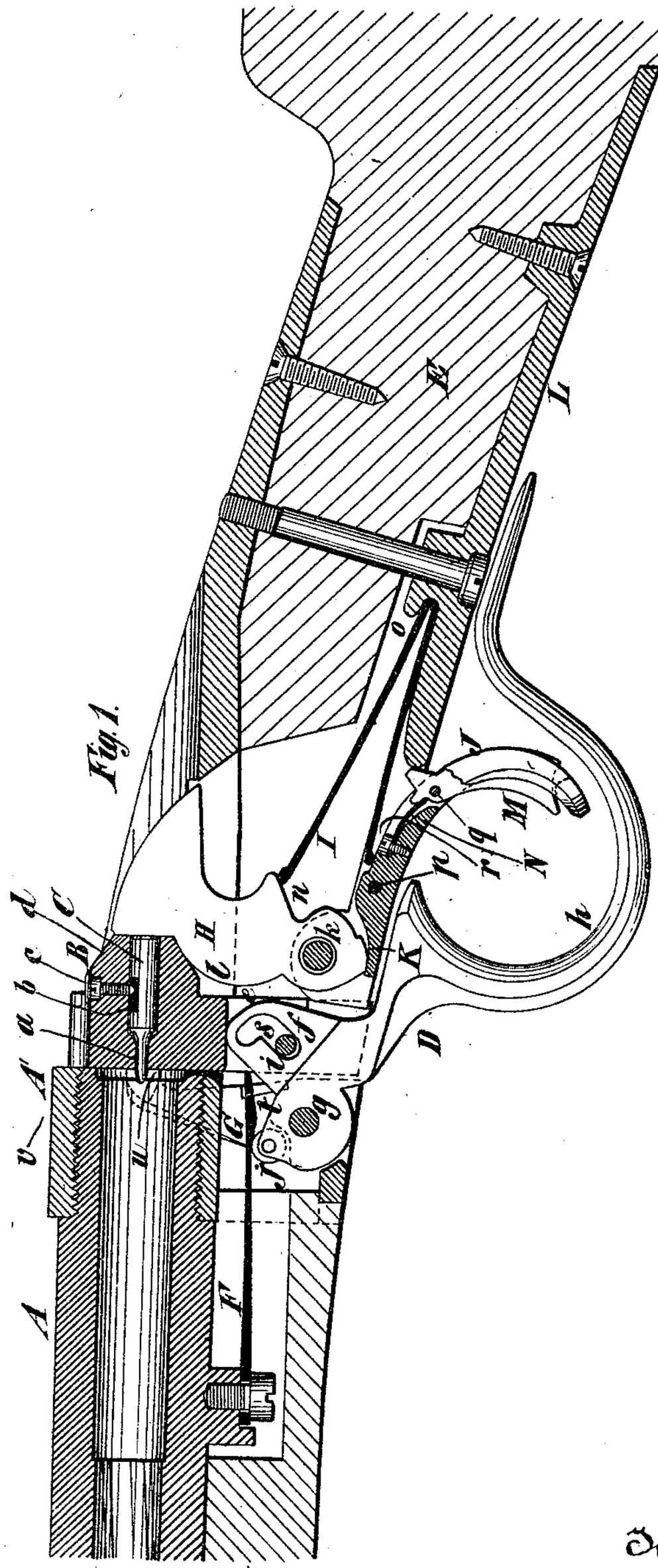
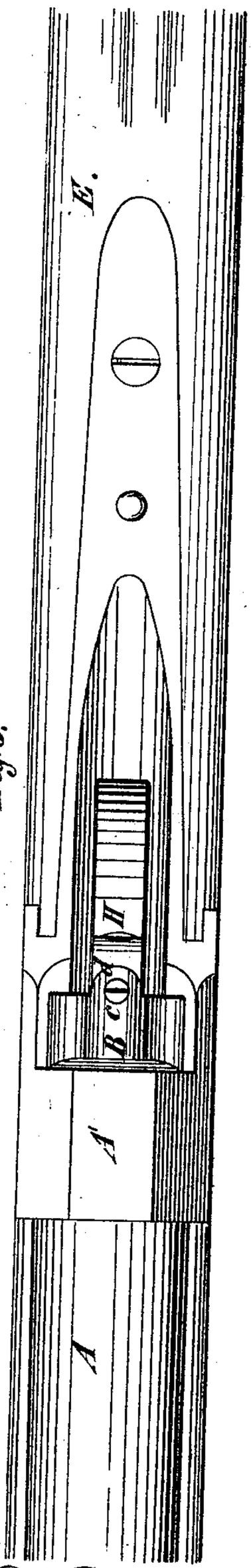


Fig. 3.



Witnesses
James R. Bowen.
T. J. Keane

Inventor.
John H. Brown,
Per his Attorney
Edwin H. Brown.

(No Model.)

2 Sheets—Sheet 2.

J. H. BROWN.

BREECH LOADING FIRE ARM.

No. 290,737. Patented Dec. 25, 1883.

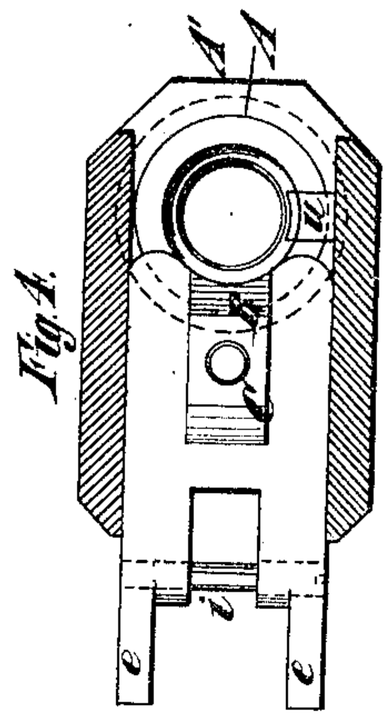


Fig. 4.

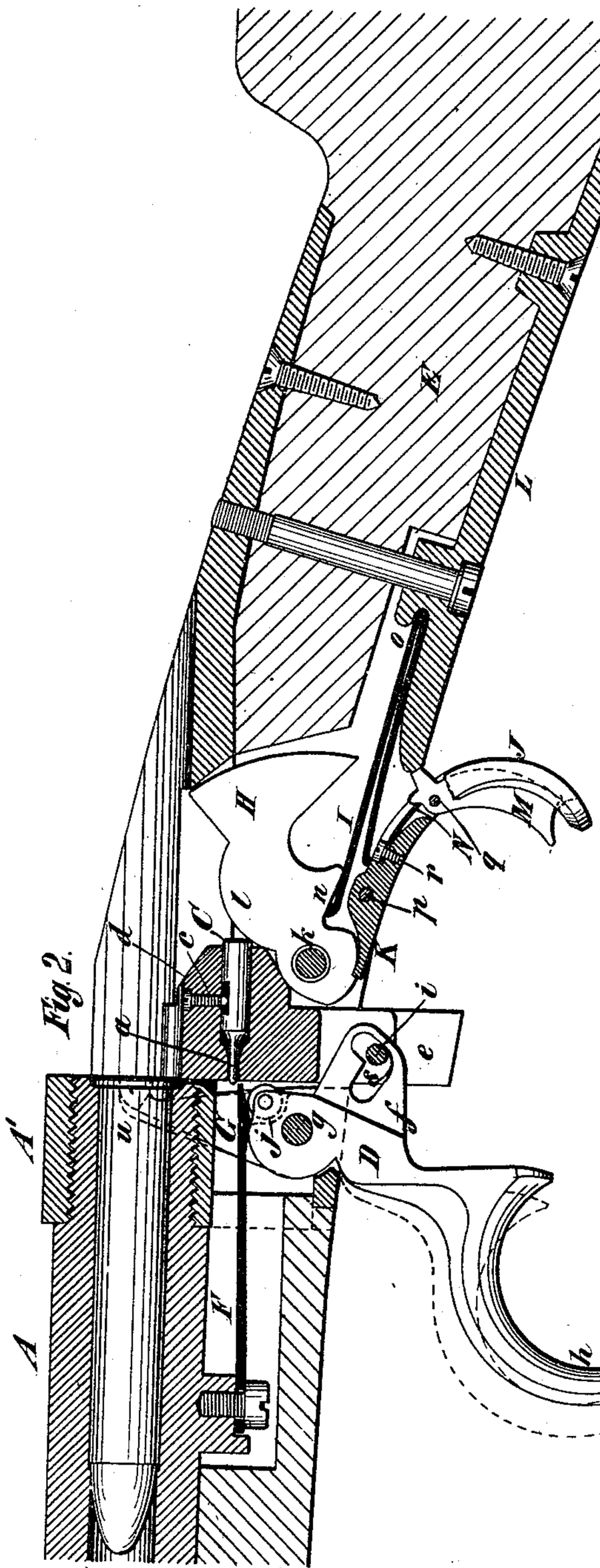


Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHN H. BROWN, OF NEW YORK, N. Y., ASSIGNOR TO THE BROWN STANDARD FIRE ARMS COMPANY, OF SAME PLACE.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 290,737, dated December 25, 1883.

Application filed March 5, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. BROWN, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Fire-Arms, of which the following is a specification.

My improvement relates almost entirely to fire-arms in which a breech-block is arranged to slide in rear of the breech of the barrel.

I will first describe in detail a fire-arm embodying the improvement, and then point out the improvement in the claims.

In the accompanying drawings, Figure 1 is a longitudinal section of the lock and a portion of the barrel and stock of a fire-arm embodying my improvement. Fig. 2 is a similar view, showing the parts of the lock in different positions. Fig. 3 is a top view, and Fig. 4 is a transverse section taken just in rear of the breech-block.

Similar letters of reference designate corresponding parts in all the figures.

A designates the breech of the barrel. It may be of the usual or any other approved construction, and is shown as being secured to the false breech A′ by being screwed into the latter.

B designates a breech-block adapted to slide up and down in ways in the lock-case just behind the breech of the barrel. The upper part of the lock-case and the corresponding part of the breech-block are hollowed out, so as to facilitate the insertion of a cartridge in the breech of the barrel.

In the upper part of the breech-block a firing-pin, C, is arranged. This firing-pin is shown as having the forward end, *a*, made very much smaller than the body or main portion. In the upper part of the body or main portion of this pin is a recess, *b*, into which extends the end of a screw, *c*, inserted from the top of the breech-block and serving to retain the pin in the breech-block. The tip of the forward end of the firing-pin is rounded, so that the pin will work back on coming in contact with any object during the movement of the breech-piece. The upper portion of the breech-block is thicker than the lower portion, and hence forms a rearward cam-like protuberance, *d*, having an inclined lower surface. The lower portion of the breech-block terminates in cheek-pieces *e*, between which extends a cam-lug, *f*, projecting from a lever, D. This lever is pivoted or fulcrumed at the forward end by a pin, *g*, which has a fixed position in the fore portion of the lock-case, and its rear end is adapted to fit close to the under side of the stock E. The lever is so shaped as to comprise a trigger-guard, *h*. The cam-lug *f* of the lever has an L-shaped slot, *s*, through which passes a pin, *i*, whereby it is connected to the cheek-pieces *e* of the breech-block. A spring, F, attached to the under side of the barrel A, acts upon the forward end of the lever, so as to hold it in position when its rear end fits close to the stock, and also when its rear end is swung forward.

Instead of having the spring F act directly upon the lever, it will preferably be made to act upon an anti-friction roller, *j*, which is mounted upon the lever. When the lever is swung forward, it draws down the breech-block, and when it is swung back it elevates the breech-block by the action of the walls of the slot *s* upon the pin *i*. After the lever has been swung forward far enough to depress the breech-block, the lever can be moved farther forward to operate an ejector, G. In this last movement of the lever one limb or branch of the L-shaped slot *s* passes away from the pin *i*, and the other limb or branch of the slot plays over the said pin without affecting the breech-block.

H is a hammer pivoted upon a pin, *k*, and a convex breast, *l*, below its head *m*. The hammer is impelled forward by a mainspring, I. This mainspring is doubled or bent over between the ends, so as to form two arms, one of which acts on the under side of a shoulder, *n*, of the hammer, and the other of which acts upon the trigger J, in rear of its pivot, so as to impel the trigger forward and the gear K upward against the hammer. The doubled portion is fitted into and held by a notch, *o*, in the trigger-plate L. The trigger J is pivoted within the forked end of the trigger-plate by a pin, *p*. The under side of the cam-like portion *d* of the breech-block extends approxi-

mately in the same direction as or conforms to the upper portion of the breast *l* of the hammer H. When the breech-block is depressed, its cam-like portion *d*, acting upon the breast *l* of the hammer, forces the same rearward, and as soon as the hammer reaches its rearmost position the sear engages with a notch in it and holds it there, even after the breech-block is elevated.

M designates a safety-catch consisting of a lever pivoted by a pin, *q*, within a slot in the trigger, so that its upper end may engage with the trigger-plate L when its lower end is impelled forward. A spring, N, fastened at one end by a screw, *r*, to the trigger, and at the other end impinging against the safety-catch lever, causes the latter to engage with the trigger-plate. Before the trigger can be operated to release the hammer the lower end of the safety-catch must be pulled back, so as to disengage its upper end from the trigger-plate. Owing to this the hammer is prevented from being accidentally released by a shock acting on the trigger. It will therefore prevent the release of the trigger being occasioned by setting down the fire-arm suddenly. If the notch of the hammer or end of the sear becomes so worn that the sear will not hold the hammer reliably, this safety-catch will, in many cases, serve to hold the hammer securely.

The ejector G consists of a lever pivoted to the pin *g*, on which the lever D is pivoted. It is arranged at one side of this lever. It is provided with a lateral projection, *t*, with which the forward end of the lever D comes in contact when the rear end of the lever is swung back. When this occurs, the upper end of the ejector-lever is forced rearwardly, so that a lug, *u*, with which it is provided, will act on the forward side of the flange on the head of the cartridge-shell and force the cartridge-shell out backward. The ejector-lever will be pushed forward by the insertion of a fresh cartridge. If no cartridge is inserted before the lever D is swung backward, the raising of the breech-block, incident to swinging this lever backward, will cause the ejector-lever to be pushed forward, the breech-block being provided with an inclined face, *v*, which acts on the ejector-lever to accomplish this result.

I am aware that it is not new in fire-arms to effect the cocking of the hammer by the movement of the breech-block.

I am also aware that a breech-block has been provided at the rear with a roller adapted to operate on the convex breast of a hammer. I do not therefore claim these features as of my invention. The breech-block in my fire-arm has a cam-like rear protuberance acting directly upon the convex breast of the hammer. By the use of this cam like protuberance I am enabled to obviate the necessity for the interposition of a roller between the breech-block and the hammer. I also have extensive surfaces in contact and provide for a longer wear of the parts. As the journals of a roller are apt in time to work loose in their bearings and cause lost motion, I obviate this objectionable feature in dispensing with the roller.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a fire-arm, a hammer having a convex breast, and a breech-block having a cam-like rear portion whose under side extends approximately in the same direction as the upper portion of the breast of the hammer, so combined that when the breech-block is shifted to expose the breech of the barrel its cam-like rear portion will act directly against the convex breast of the hammer to effect the cocking of the hammer, substantially as specified.

2. In a fire-arm, a hammer having a convex breast, and a shoulder at the rear, a spring acting on the under side of the shoulder to impel the hammer forward, and a breech-block having a cam-like rear portion whose under side extends in approximately the same direction as the upper part of the breast of the hammer, and which is so combined with the hammer that when the breech-block is shifted to expose the breech of the barrel its cam-like rear portion will act directly against the convex breast of the hammer to effect the cocking of the hammer, substantially as specified.

3. In a fire-arm, the combination of a sliding breech-block, an ejector, a pin having a fixed position in the lock-case, and a lever snugly fitting upon and fulcrumed by said pin, so as to be capable of a swinging motion thereon, and having a cam-like lug, provided with an L-shaped slot extending from it and connected to the breech-block by a pin passing through said slot, whereby the lever, after shifting the breech-block, can be moved farther, without affecting the breech-block, to actuate the ejector, substantially as specified.

4. In a fire-arm, the combination of a hammer, a trigger, and a safety-catch serving to lock the trigger when the hammer is cocked, pivoted to a support, so that its lower end will project in front of the trigger, and adapted to be released by pulling upon its lower end in the same direction as the trigger is pulled, in order to effect the release of the hammer, substantially as specified.

5. In a fire-arm, the combination of a hammer, a trigger, and a safety-catch pivoted to the trigger, and serving to lock the trigger when the hammer is cocked, substantially as specified.

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Witnesses:
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