2 Sheets—Sheet 1

E. L. STURTEVANT.

Magazine Fire-Arm

No. 66,751. Patented July 16, 1867.

Witnesses.
Chas H Griffen
Chas S Turner

Inventor.
Edward L. Sturtevant.
by his attorney
A. Pollok

2 Sheets—Sheet 2

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Fig: 5.

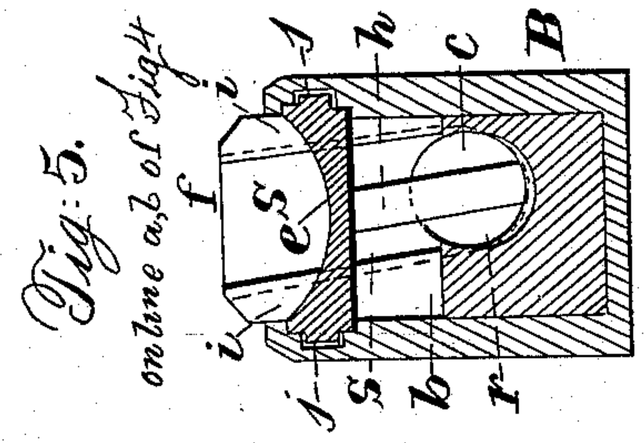
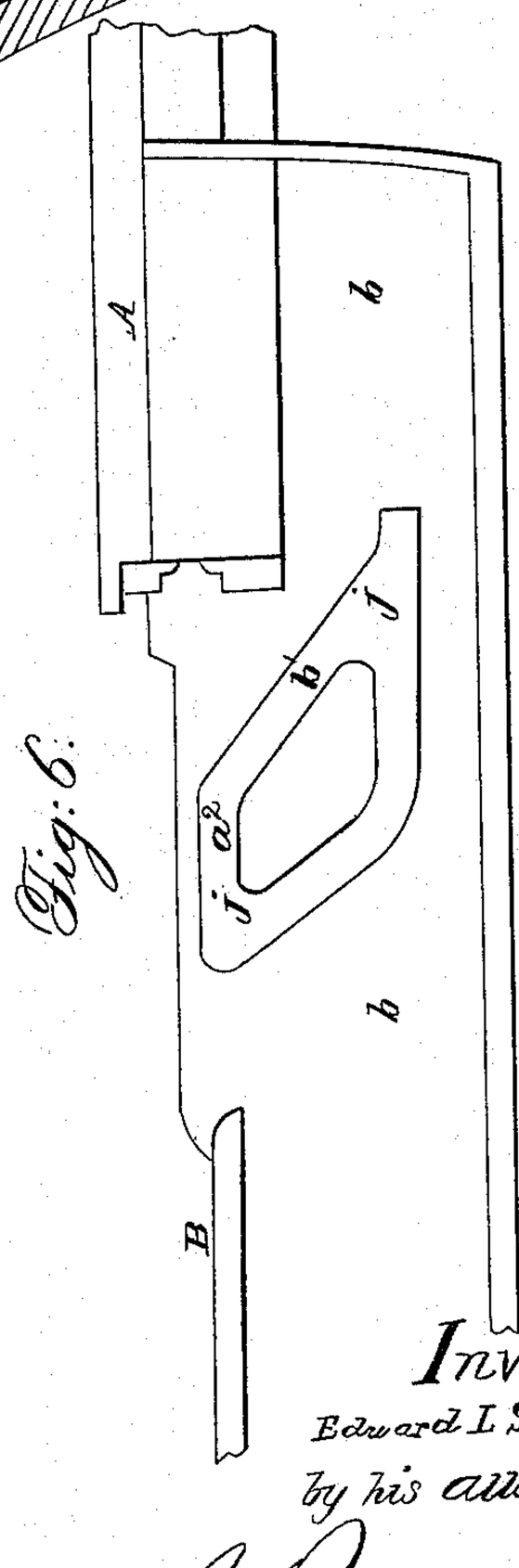


Fig: 4.

Fig: 6.



Witnesses

Chas. H. Griffin

Chas L Turner

Inventor.

Edward L Sturtevant

by his Attorney

A. Poor

UNITED STATES PATENT OFFICE.

EDWARD L. STURTEVANT, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. **66,751**, dated July 16, 1867.

To all to whom these presents shall come:

Be it known that I, EDWARD L. STURTEVANT, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Breech-Loading Fire-Arm; and do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and in which—

Figure 1 is a top view, and Fig. 2 a side elevation, of a breech-loading repeating fire-arm constructed in accordance with my invention, and with the outer plate removed. Figs. 3 and 4 are vertical and longitudinal sections, and Fig. 5 a vertical and transverse section, of the same, Fig. 6 being an inner-side view of the breech-receiving chamber hereinafter described.

The object of this invention is to simplify the construction of a class of fire-arms which have heretofore been very complicated and expensive in manufacture and difficult to keep in order and repair, an arm constructed in accordance with my plan being extremely simple in make and effective in operation, with no complication of parts or of movements to operate it.

In the drawings above referred to as illustrating my invention, A denotes the barrel of a fire-arm, and *a* its bore. The frame or stock is shown at B as being hollow or formed with a longitudinal chamber, *b*, extending some distance underneath the barrel, and containing a sliding block or carriage, C, which slides longitudinally back and forth therein during the operation of loading and discharging the piece. This sliding block C serves the purpose of not only receiving the cartridge and introducing it into the barrel, but forms a recoil bearing or breech for resisting the force of the explosion of the charge, the expulsion of the spent shell from the arm being also effected by its movements. To this end the sliding block has a circular opening, *c*, extending about two-thirds through it, this opening being of a sufficient caliber to easily receive a cartridge from a magazine suitably connected with it, the cartridge being forced forward by means of a spring or other equivalent device. As this device forms no part of my present invention I have not considered it necessary to show it.

The forward part of the sliding-block is formed with a semicircular recess, *r*, of a sufficient length to receive a cartridge, and being in line with or a continuation of the opening *c*, a narrow vertical slot or passage, *d*, being cut transversely across the block and between the two, as represented in the drawings. A carrier-block or cross-head, *e*, slides vertically within this slot *d* and in contact with the front face of the opening *c*, the sliding block C having an enlargement or offset, *f*, rising above the front end of the opening, and serving as a recoil-bearing or breech to close the end of the barrel. The inner face of this breech *f* is formed with a dovetailed or other properly-formed groove or channel, *s*, for receiving the flange of the cartridge and holding the same in a horizontal position while being carried forward into the barrel.

The carrier-block *e* is retained in due connection with the carriage C by means of ears or lugs *g g* extending from it and into upright grooves formed in the side of the carriage, a friction-brake being applied to the carrier *e* in the shape of a plate-spring, *h*, secured to its under part, and carried downward and between the carriage and the bottom of the chamber *b* of the stock. Reciprocating vertical movements are imparted to the carrier *e* by the agency of studs *i i*, projecting laterally from it and into two irregular endless channels or grooves, *j j*, formed in opposite sides of the chamber *b*, as shown in Fig. 6 of the drawings.

Sliding longitudinal movements are imparted to the carriage C by a guard-lever, D, which is hinged to the stock, as shown in Fig. 3 of the drawings, the shorter arm, *k*, of which rises upward into the chamber *b*, and is provided with two studs to extend into a dovetailed groove, *l*, formed in the front end of the carriage C. The longer arm, *m*, of the guard-lever serves as a guard to cover and protect the trigger.

The breech or carriage C may be locked in position against the end of the barrel in a variety of ways, that shown in the present application, however, being simply a wedge, *n*, forming part of the guard-lever, which extends through a slot, *o*, in the stock and into a mortise or recess, *p*, made in the under side or rear end of the carrier C. A lock for explod-

ing the cartridges may be applied in any well-known manner.

I would remark that the front end of the recoil-block or offset *f* should be so constructed as to close around the inner end of the barrel and prevent any possibility of bursting of the metallic shell of the cartridge.

In operating with the above-described fire-arm, cartridges to the number of ten, or thereabout, are to be inserted within the tube or magazine connected with the sliding carriage C, several of which will lie within the opening *c*, the forward one of the number projecting forward into the semicircular recess *r*, and so that its flange shall rest within the bottom of the groove *s*. By seizing the longer arm of the guard-lever and throwing it down into the position shown in Fig. 4 of the drawings, the sliding block C will be forced backward to its extreme position, the action of the rear side of the endless grooves *j j* serving, during this movement, to throw the carrier-block *e* upward and carry the cartridge with it and into line with the bore of the barrel, as shown in the said Fig. 4, the groove, as before mentioned, serving to maintain the horizontal adjustment of the cartridge, while the carrier-block *e* serves to sustain and raise it. By reversing the movement of the guard-lever and bringing it up in place against the stock, the sliding block C will be carried forward, forcing the cartridge into the barrel and closing the rear end of the same, the action of the inclined portion *b'* of the endless grooves *j j* serving during this movement to lower the carrier *e* into its original position at the bottom of the slot *d*, the plate-spring *h*, before referred to, closing the inner end of the opening *c* during the forward movement of the block C, and keeping back the cartridges which may be in it. As soon as the carrier *e* has reached its lowest position the opening *c* is uncovered and a cartridge forced forward into the recess *r*. On bringing down the guard-lever a second time, the cartridge within the recess *r* will be thrown upward in the same manner as the first, and, striking the empty shell, which has been withdrawn from the barrel by the breech *f*, will discharge it from the fire-arm through an opening in the top of the stock or frame B, and will be itself brought into position in line with the barrel.

It will thus be seen that the above-described arm is extremely simple in its construction, with no parts liable to derangement or breakage. Its motions are all positive in their action and certain in their results.

In addition to the endless grooves *j j* for raising the cartridge-carrier *e*, I have contemplated the employment of an inclined plane or bridge for aiding this movement, if in practice this should be found necessary. The upper or horizontal portion, a^2, of the grooves *j j* serves to sustain and carry forward the cartridge in a line with the axis of the barrel until it has nearly entered it.

In a fire-arm such as described, I claim—

1. The combination, with a sliding breech or recoil-block, of a cartridge-carrier held in and actuated by, but not forming part of, said breech-block, under such an arrangement that the breeck-block, in its sliding movement, shall cause the raising and lowering of the carrier, as herein specified,

2. I also claim the carrier *e*, in combination with the sliding block C and its groove or recess *s* for raising the cartridge into line with the barrel, as well as for expelling the empty shell, essentially in manner and to operate as explained.

3. I also claim the employment of the carrier *e* and its spring for the combined purpose of raising the cartridge and at the same time keeping back the supply of cartridges within the magazine, substantially as described.

4. I also claim the peculiar mode of connecting the guard-lever D to the sliding block C—viz., by the dovetailed groove *l* and studs upon the lever, in manner and for the purpose as explained.

5. I also claim the peculiar formation of the grooves *j j*, whereby the cartridge-carrier *e* is caused to rise and elevate the cartridge, and subsequently to guide the carrier and cartridge forward in a line with the bore of the barrel, essentially as explained.

EDWARD L. STURTEVANT.

Witnesses:

FREDERICK CURTIS,

CHAS. H. GRIFFIN.