2 Sheets—Sheet 1.

J. ELSON.

Breech-Loading Fire-Arm.

No. 67,033. Patented July 23, 1867.

Fig. 1.

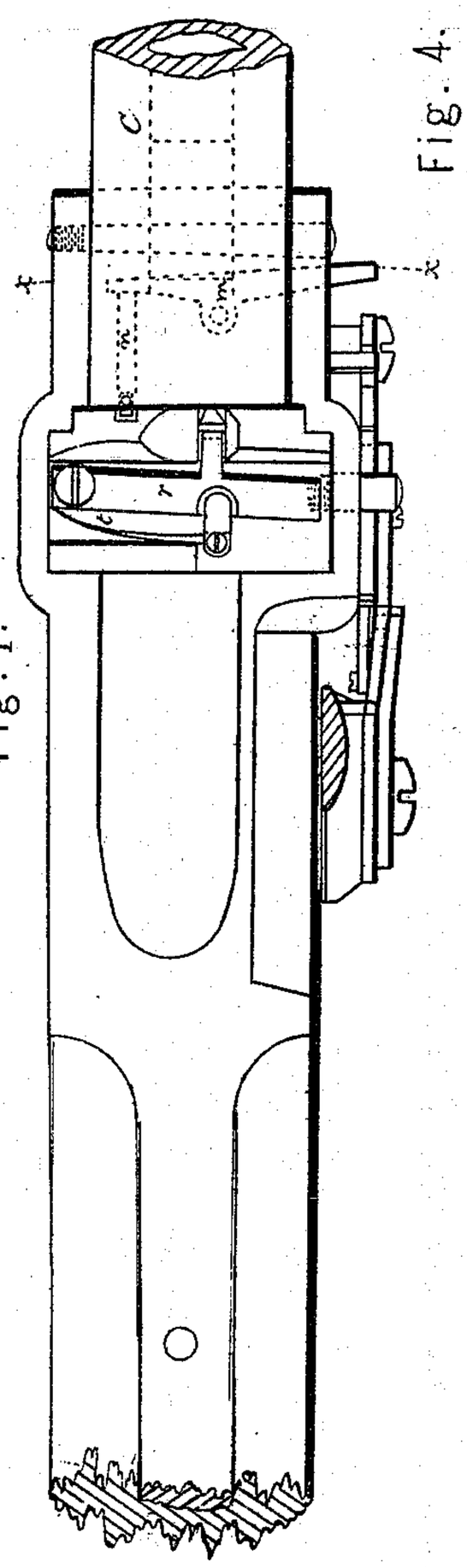

Fig. 4.

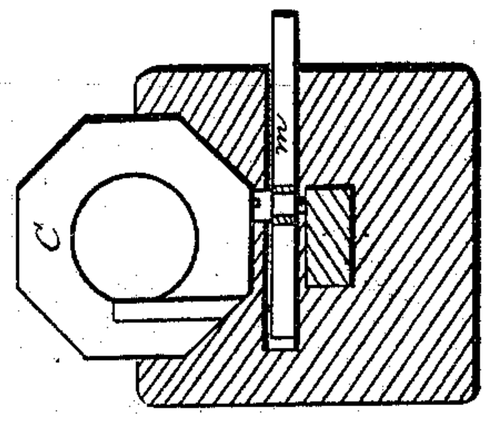

Fig. 2.

Witnesses.

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Edw. F. Evans

Inventor.

Julius Elson

2 Sheets—Sheet 2.

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Fig. 3.

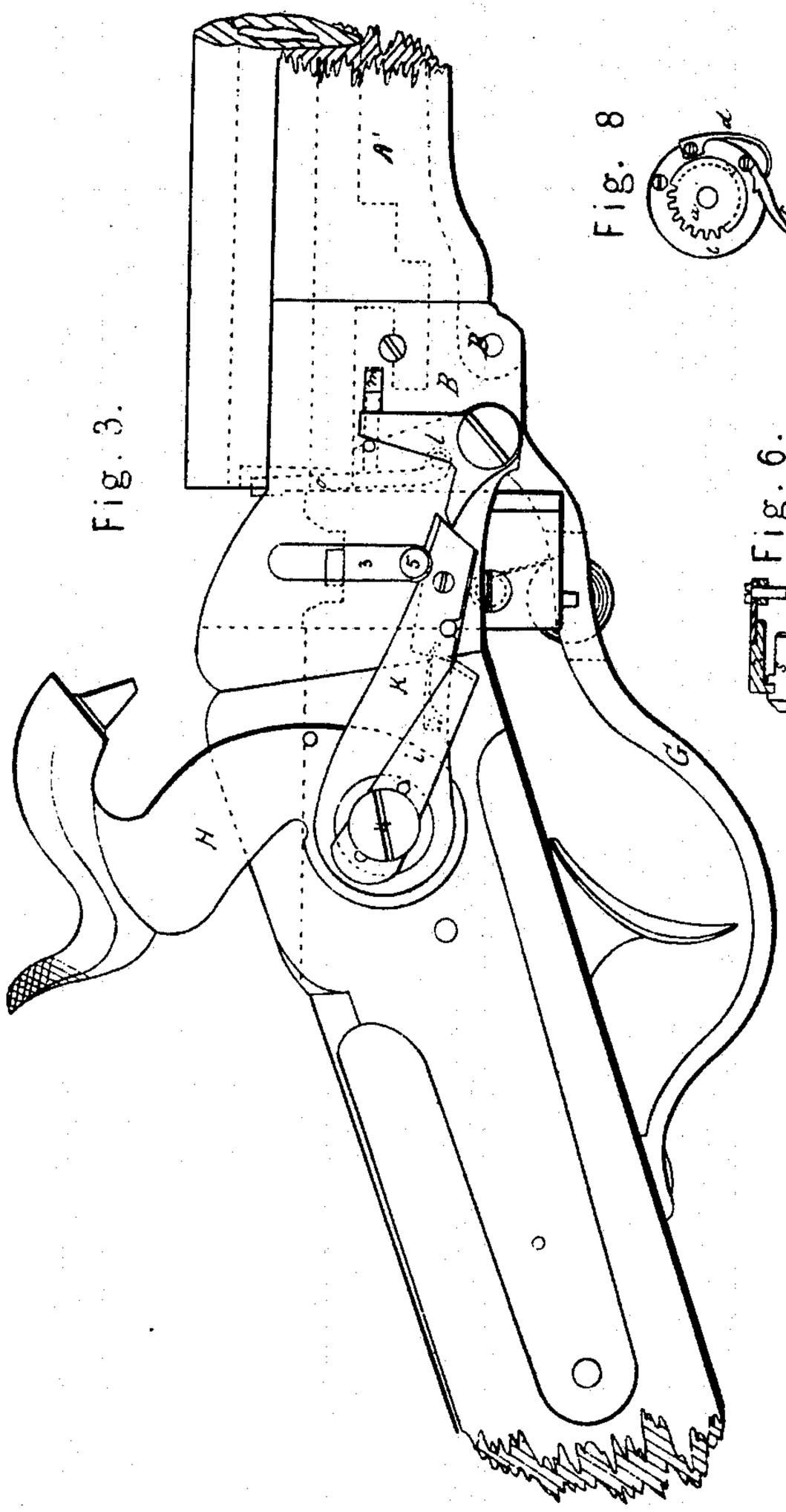


Fig. 8

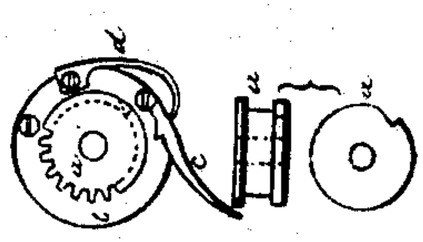


Fig. 6.

Fig. 9.

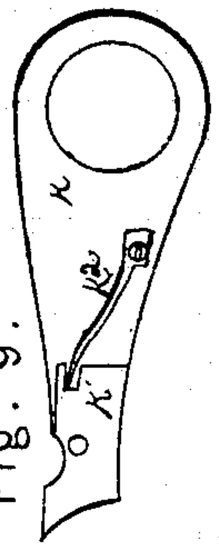


Fig. 7.

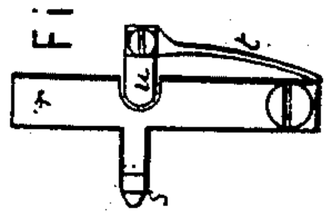
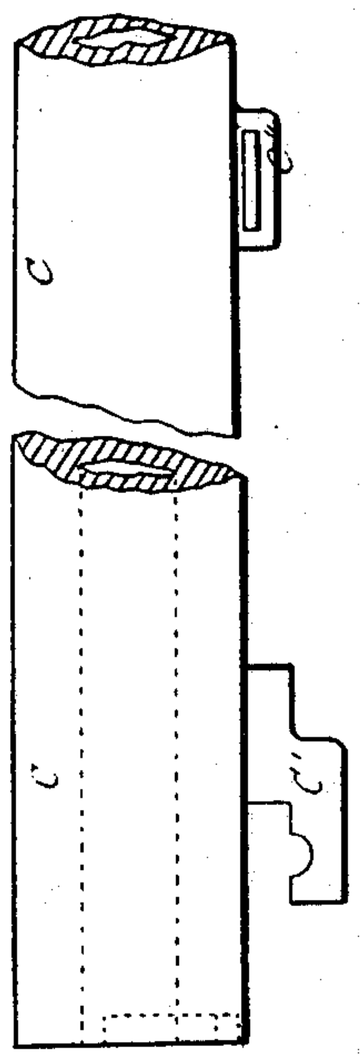


Fig. 5.



Witnesses.

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Edwd F Adams

Inventor.

Julius Elson

United States Patent Office.

JULIUS ELSON, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 67,033, *dated July* 23, 1867.

IMPROVEMENT IN BREECH-LOADING FIRE-ARM.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, JULIUS ELSON, of Boston, in the county of Suffolk, and State of Massachusetts, have invented certain new and useful Improvements in Breech-Loading Fire-Arms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a top view of the portion of a gun with my improvements.

Figure 2 is a longitudinal vertical section of the same.

Figure 3 is a side elevation.

Figure 4 is a transverse section in the line *x x* of fig. 1.

Figure 5 is a side view of the rear portion of the barrel; and

Figures 6, 7, 8, and 9, are details of portions of the lock.

Similar letters indicate like parts in the several figures.

The object of this invention is to provide a breech-loading fire-arm which may be easily manipulated, which will not be liable to get out of order, and may be readily and safely used by persons not accustomed to or careful in the use of fire-arms; and the invention consists in so constructing and combining the parts that the sliding breech-piece shall be adjusted to its place for firing, or removed therefrom after the discharge of the piece, by the simple action of the hammer, and that the cartridge-shell shall be retracted from the rear of the barrel, after each discharge, also by the action of the said hammer.

Referring to the drawings, B B represents a portion of the housing, C the barrel, and A a part of the stock; *g* represents the breech-block, which slides in grooves within the housing, at right angles with the axis of the barrel, and closes tightly over the rear opening of the same. The breech-block is raised to its position at the rear opening of the barrel, preparatory to discharging the piece, in the following manner: At one side of the breech-block is secured a pin, 5, which projects through a vertical slot, 3, in the side of the housing, as seen in fig. 1. Underneath the pin 5 is a lever, *k*, which extends from the pin or axis of the hammer, and is placed loosely upon the said hammer. To the hammer is also firmly secured an arm or lever, *i*, and turns with the said hammer, so that when the hammer H is drawn backwards, the lever *i* will raise the arm *k*, and the latter will press against the pin 5, and thus the breech-block will be elevated to its position in the rear of the barrel. The breech-block is held in position when elevated by means of a bolt, *f*, which is arranged in the housing at the rear of the said breech-block, as shown in fig. 2, and is pressed forward into a recess at the rear of the block by means of a spring, *p*, as shown in fig. 2. The rear portion of the bolt *f* is formed with teeth or circular projections, as shown, which engage with the toothed wheel *a*, and by means of which the bolt *f* is drawn back so as to allow the breech-block to descend to open the rear of the barrel. The breech-block is drawn down by means of a coiled spring, *h*, attached to the trigger-guard below, and secured at one end to the lower part of the breech-block. The toothed wheel *a* is formed, as shown in fig. 8, with two projecting rims, and is placed loosely upon the axis of the hammer, and runs freely upon a plate, *b*, which is attached securely to the nut or axis of the hammer, and turns with it. The plate *b* carries a click or pawl, *c*, as shown in fig. 8, which is pressed forward by a spring, *d*, into a recess or notch on the under (or inner) part of the wheel *a*, and by which the said wheel *a* is actuated. As the hammer is drawn back the pawl or click *c* will engage in the recess in wheel *a*, so as to turn the latter and thus draw back the toothed bolt *f* out of the recess in the breech-block, when the latter will be drawn down by the spring *h*. As the hammer is drawn to the position of half-cock, the end of the lever or arm *k* strikes against one arm of a bell-crank lever, *l*, thus carrying it upwards, which causes the other arm of the lever *l* to strike against the projecting end of a lever, *m*. The other end of the lever *m* actuates an arm, *o*, which is shown in the dotted lines in figs. 2 and 3. The arm *o* is pivoted at its lower end, and extends upwards so as to fit inside of the rim of the cartridge-case, when the cartridge is in the barrel ready to be discharged, so that when the hammer is drawn backwards the said arm *o* acts as a retracter and moves the discharged cartridge-case out from the barrel. The arm *k*, as shown in fig. 9, is provided with a hinged portion, k^1, at its front inner end, which corresponds in form with the end of arm *k*. It is held in position parallel with the main portion by means of a spring, k^2, so as to yield, when descending, to allow it to pass by the end of lever *l*. The discharge of the cartridge is effected by means of a device shown in figs. 6 and 7. *s* is a pin or arm connected by a projection to a bar, *r*, which is pivoted at one side of the upper part of the breech-block *g*, so as to allow.

of a vibrating motion to the said bar. It is held in position rearwards by means of a spring, *t*. A projection, *u*, enters a recess in the rear of the bar *r*, for the purpose of steadying it. The point of the hammer being bevelled on its front portion, impinges upon the free end of the bar *r*, pressing it forward and forcing the pin *s* against the portion of the cartridge-case containing the fulminate, thus causing the explosion of the cartridge. Fig. 5 shows the method of securing the barrel to the housing and stock. *c'* is a projection formed as shown on the under part of the barrel, and takes into a corresponding portion in the housing, and is fastened by means of a flat pin or wedge passing through the slotted portion *c''*. The stock A' is hinged to the housing B as shown at B' in figs. 2 and 3.

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

1. The device for releasing the breech-block from the position required for discharging the gun, and returning it to the same position, and at the same time retracting the cartridge-shell, consisting of the vertical sliding breech-block *g*, to which one end of a coiled spring, *h*, is attached the hammer H, operating the levers *i* and *k*, the latter provided with a hinged piece, k^1, and spring k^2, which act on the bell-crank lever *l*, and operating also the plate *b* with the wheel *a* and pin *f*, all constructed and arranged as described.

2. I claim the combination of the plate *b* with the wheel *a*, constructed as described, the springs *d* and *p*, click *c*, and the bar *f*, as and for the purpose described.

3. I claim the lever or arm *k*, constructed as described, in combination with the levers *l*, *m*, and *o*, and pin *n*, the same composing the mechanism for retracting the cartridge-shell.

4. I claim the projections *c' c''* on the barrel *c*, and the hinge B' by means of which the barrel is secured to the stock, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JULIUS ELSON.

Witnesses:

J. H. ADAMS,

M. S. G. WILDE.