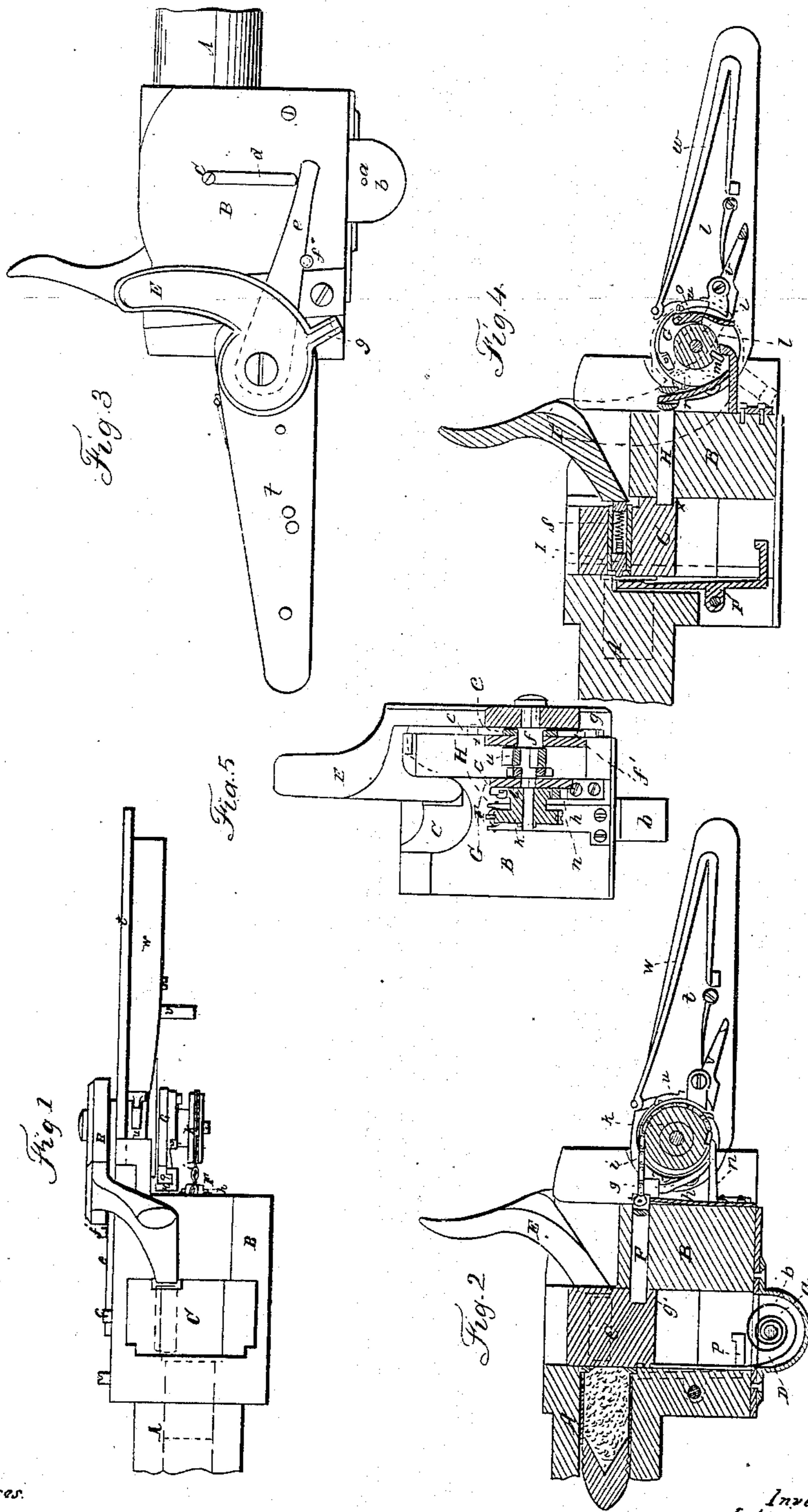


J. ELSON.

Breech-Loading Fire-Arm.

No. 64,650.

Patented May 14, 1867.



Witnesses:
Gey H. Andrew
Samuel D. Piper

Inventor
Julius Elson
by his attorney
R. W. Eddy

United States Patent Office

JULIUS ELSON, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 64,650, dated May 7, 1867.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

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

TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME:

Be it known that I, JULIUS ELSON, of Boston, in the county of Suffolk, and State of Massachusetts, have made a new and useful invention of improvements in Breech-Loading Fire-Arms; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view.

Figure 2, a longitudinal section; and

Figure 3 a side elevation of the lock and part of the stock of a breech-loading fire-arm or musket provided with my invention.

Figure 4 is a vertical section taken through the advancer and its operative cam, the fulminate, and cartridge dischargers.

Figure 5 is a transverse section, taken in the line of the axis of the hammer-pin or journal.

The fire-arm is to have the rear end of its barrel A open, and there is to be arranged within the stock B, made of metal, a movable breech-closer or block, C, which is to be capable of being moved within the stock in a direction at right angles with the axis of the bore of the barrel. A coiled or spiral spring, D, arranged beneath and attached to the breech-block and to a pin, *a*, going through and fixed in the spring-case *b*, serves to depress the breech-block so as to uncover the rear end of the barrel in order for the expulsion of a cartridge-shell from the barrel and the insertion of a cartridge therein.

The mechanism for effecting the elevation of the breech-block may be thus described: A pin or stud, *e*, extends from one side of the block through and projects beyond a vertical slot, *d*, made in the side of the stock, the arrangement of the slot being as represented in fig. 3. Extending underneath the pin *e* is an arm or lever, *e*, which turns freely on the hammer pin *f* as a fulcrum. An arm, *g*, projecting from the hammer E and underneath the said arm *e*, serves to force the latter upward while the hammer is in the act of being pulled backward. The arm *e*, by acting against the stud *e*, will elevate the breech-block up to a position for it to cover the rear end of the barrel. During an advance of the hammer, the lever or elevator *e* will drop down upon a rest, *f'*, projecting from the stock, and arranged as shown in fig. 3. A bolt, F to enter a recess, *g'*, in the breech-block, and arranged in the stock, serves to hold the breech-block in its highest position preparatory to the descent of the hammer. Such bolt is represented in fig. 2. It is driven forward by a spring, *h*, and retracted by a chain, *i*, attached to the periphery of a barrel or cylinder, *k*, which is placed and revolves freely on the pin *f* of the hammer, and is affixed to a ratchet or notched wheel, *l*, having a stud, *m*, extending from it, as represented in fig. 4, and likewise turns on the hammer pin. This stud, by bringing up against a stop, *n*, arrests the rotary motion of the ratchet. A round plate, G, fixed on the hammer pin so as to revolve with it and the hammer, carries a click or impelling pawl, *o*, for actuating the ratchet, such click being disengaged from the ratchet by means of being forced against the stop *n* at the proper time. On pulling back the hammer the pawl or click will so act against the ratchet *l* as to revolve it and the cylinder *k*. This will cause a retraction of the bolt F, and, as a consequence, the breech-block will be instantly depressed by its spring. In going down, the breech-block, by its action against the lower arm of a bent lever or ejector, *p*, for discharging the cartridge-shell, will cause the lever to turn on its fulcrum and against the flange of the shell so as to eject the shell from the breech end of the barrel. The arrangement and form of the ejector are exhibited in fig. 4. The shell is shown by red lines as within the barrel. The plate G supports a curved cam, *q*, which projects from such plate and enters a notch, *r*, in the advancer H, in manner as shown in figs. 1 and 4. This advancer is like a bolt. It is arranged within the stock, and, with the cam, is for the purpose of crowding or pushing the breech-block close up to the rear end of the barrel preparatory to a discharge of the cartridge. As the advancer enters a shallow notch, *x*, made in the breech-block, such notch acting with the advancer will afford an additional means of locking the breech-block or preventing it from dropping while the gun is being discharged. The cam, when turned upward by the hammer, retracts the advancer. When the hammer is in the act of being thrown down the advancer will be forced forward by the cam, and by pressure against the breech-block will hold it in close contact with the cartridge or rear end of the barrel. In the breech-plate I arrange a fulminate discharger, I, which slides freely within the block, and is provided with a retractive spring, *s*. The hammer

on descending strikes on the rear end of the discharger I, and forces such discharger smartly forward against the flange or rear part of the cartridge so as to cause its fulminate or percussion powder to be discharged by the blow or concussion of the discharger I. While elevating the hammer to a half cock the breech-block will be unlocked and thrown downward so as to uncover the barrel. On next elevating the hammer to full cock, the breech-block will be raised so as to cover the barrel, and will remain in such position during the next descent of the hammer, which, striking on the fulminate discharger, will drive such discharger forward so as to cause an explosion of the cartridge to take place. The lock of the piece is to be provided with a tumbler, *u*, sere, *v*, and main-spring, *w*, arranged with respect to the lock-plate *t* and the hammer in the ordinary manner.

I claim as my invention the following, viz :

1. I claim the combination, as well as the arrangement, of the advancer H and its cam *g*, or operative mechanism, with the hammer and the breech-block applied to the barrel and stock, and with the mechanism as described for elevating or depressing the breech-block C, and bolting and unbolting it with respect to the barrel, substantially in manner as specified.

2. I also claim the combination, as well as the arrangement, of mechanical parts or instrumentalities for elevating and depressing the breech-block C, and bolting and unbolting it with respect to the barrel, in manner as set forth, such parts or instrumentalities consisting in the hammer E, its pin *f*, and arm *g*, the lever or arm *e*, stud *c*, spring D, the bolt F and its operative mechanism, substantially as described.

JULIUS ELSON.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.