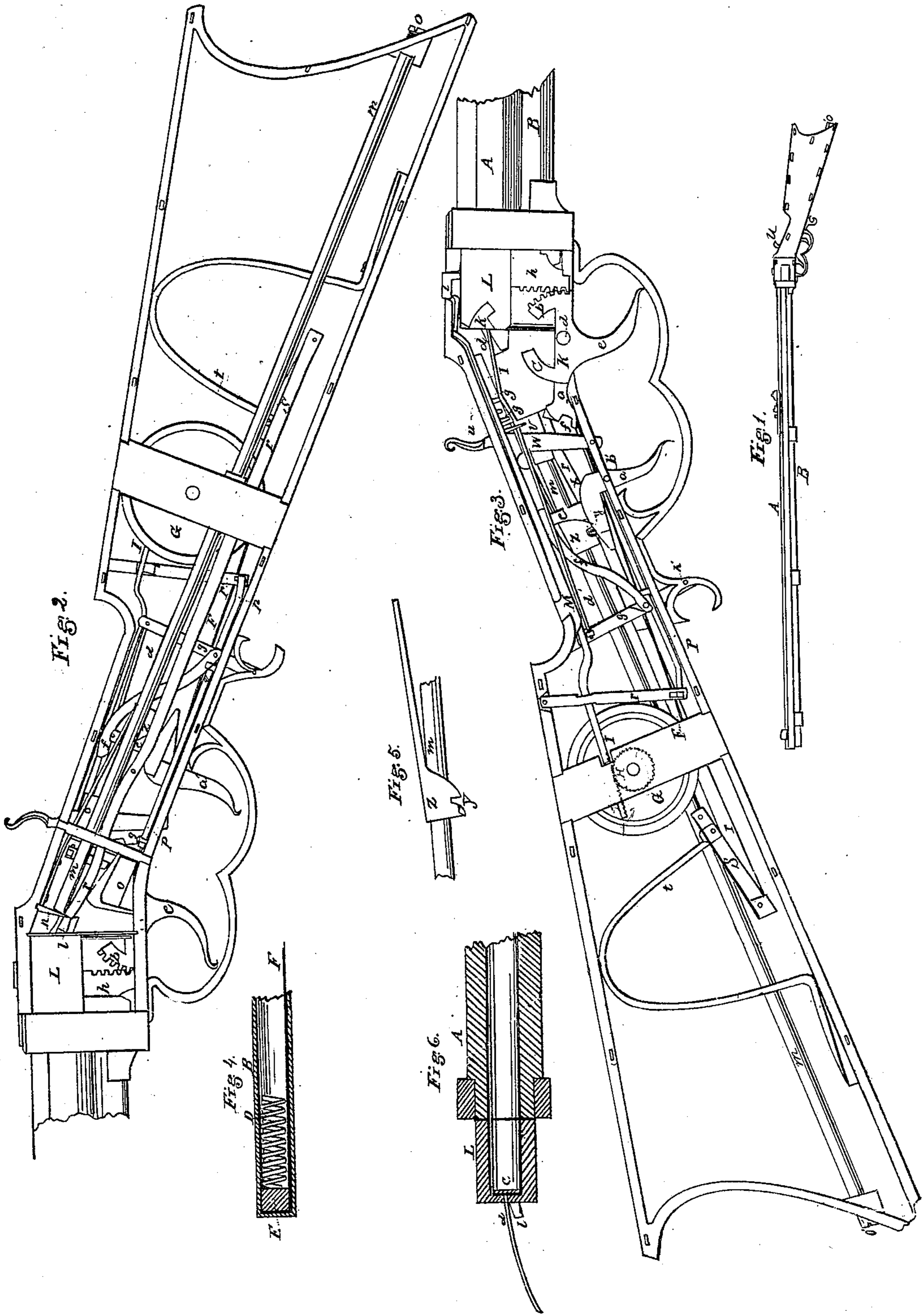


E. BALDWIN.  
Magazine Fire-arm.

No. 11,283.

Patented July 11, 1854.



# UNITED STATES PATENT OFFICE.

EDEN A. BALDWIN, 2D, OF SHELBURNE FALLS, MASSACHUSETTS, ADMINISTRATOR OF EDEN BALDWIN, DECEASED.

## IMPROVEMENT IN FIRE-ARMS.

Specification forming part of Letters Patent No. **11,283**, dated July 11, 1854.

*To all whom it may concern:*

Be it known that EDEN BALDWIN, now deceased, late of Templeton, in the county of Worcester and State of Massachusetts, invented certain new and useful Improvements in Fire-Arms, the same being applicable to rifles, muskets, pistols, and cannon; and that the following specification of the same, taken in connection with the accompanying drawings, fully sets forth the nature and principles thereof, by which they may be distinguished from others of like character.

Of the drawings above mentioned, Figure 1 represents a side view of a rifle constructed on said Baldwin's improved plan. Fig. 2 is a view of the breech on an enlarged scale, wherein the mechanism of the interior thereof is seen, the side plate being removed in order to exhibit the several parts. Fig. 3 is another view, of similar character, of the opposite side of the breech.

This gun may be classed among those which are termed "repeating-guns," and when constructed of the ordinary length will explode about forty discharges in succession.

A represents the barrel, under which a long tube or loading-magazine, B, is arranged and suitably confined. In this tube the charges of powder and ball, made up into cartridges, are placed or dropped in succession one upon another, the first charge resting against the end of a helical or wound spring, D, which is connected at its opposite end to a small circular disk of metal, E, (see Fig. 4, which is a longitudinal section of a portion of the end of the magazine-tube.) A small steel ribbon or chain, F, leads from the disk E along the bottom of the tube and into the interior of the breech, where it is connected to and winds around the perimeter of a grooved wheel, G. See Figs. 2, 3.) This grooved wheel has a small toothed or ratchet wheel, H, affixed upon one side of it, as shown by dotted lines in Fig. 3, into which ratchet-wheel a toothed rack formed upon one end of a bar, I, operates, the said rack resting on the top of the wheel, and the said bar I being suitably supported and extending forward, and being connected at its opposite end to an arm, a, of the bent or crooked lever K, by which the chamber L is depressed. The lever K is shaped as seen in Fig. 3. It has a curved

rack or sector of teeth, b, applied to its lower part, and also a circular curved projection, c, extending from it between the arm a and the toothed sector b. The lever turns upon a center-pin, d, and has a curved trigger-arm, e, extending from its rear side, as seen in the drawings. A projection, f, from the upper part of the arm a, enters between two studs, g g, inserted in the side of the rack-bar I, so that whenever the top of the arm a is thrown forward by the finger applied to the trigger-arm e the bar I will be moved forward in a direction of its length, and will thereby cause the barrel or wheel G to turn upon its axis, and consequently draw all of the cartridges of the magazine rearward a sufficient distance to deposit one of them in the chamber L, which, by the action of the lever K, has been depressed into line with the magazine. The chamber L consists of a block of metal suitably bored out for the reception of the cartridge, and placed in the breech at the rear end of the barrel of the gun, and sustained in proper guides, which permit it to be raised and depressed in a vertical direction or at right angles to the barrel. To the lower side of the chamber a vertical straight rack of teeth, h, is affixed, which engage with the teeth of the curved sector of the lever K, so that whenever the trigger-arm of the said lever is drawn back the toothed sector and rack will depress the chamber L. The chamber L is elevated into line with the barrel of the gun by means of a spring, M, Fig. 3, whose end is inserted under a bent stud, i, projecting from the top of the block L, and whose opposite end is secured to the metallic frame of the breech. A curved notch or space, K, is cut out of the side of the chamber or block L, as seen in Fig. 3. When the chamber is depressed to its lowest position it must remain in such position a sufficient time to admit the cartridge, which must not be drawn backward in the magazine until the chamber reaches its lowest position. Therefore the projection f of the arm a of the lever K should not come into contact with the studs g g until the depression of the chamber is effected. This being accomplished, the toothed sector of the lever K leaves the rack and the curved part c of the lever enters the curved space k of the chamber, and while moving through the

same the chamber is not only retained or held down by the curved part *c*, but the rack-bar I is moved forward.

As soon as the cartridge has entered the chamber L it becomes necessary to puncture a hole in it, in order to cause the explosion of the priming to take effect thereon. For this purpose a small wire point or needle, *o*, Fig. 2, is caused to enter the hole in the nipple *l*, and to pass through the cartridge. This needle is mounted or fixed on the end of a slide-rod, *p*, which is supported and guided in suitable bearings *q q*. Its rear end is jointed to an upright lever, *r'*, which turns or moves at its upper end on a fulcrum or pin inserted in the breech-frame, and engages with the rack-bar I, resting in a suitable notch cut therein; or it may be jointed to the said rack-bar in any proper manner. The forward motion of the rack-bar therefore will impel the slide *p* forward, and of course will cause the needle *o* to enter the nipple and thus puncture the cartridge. As the rack-bar retreats a short distance before the chamber L commences its rise, the needle *o* is withdrawn from the nipple during the recession of the bar I.

The next operation to be performed consists in supplying the nipple *l*, Fig. 2, of the chamber L with percussion-caps as the same may be requisite. A long tube, *m*, extends from the rear of a small partition, *n*, situated just above the nipple, to the rear part of the breech, as seen in Fig. 2, where its end is closed by a screw, *o'*, which may be removed at pleasure. This tube may be considered as the priming-magazine, and in its internal diameter it is a very little larger than the external diameter of the percussion-caps. It is to be charged with percussion-caps, which are to be dropped into the same mouth downward through the opening of its rear end. Forty caps thus inserted in the tube will fill up about one-third of its length. Into the remaining two-thirds a strong helical or wound spring is to be inserted in a state of contraction. This spring should be of such length that when expanded to its greatest extent it shall fill the entire length of the magazine, its object being to force the caps forward toward the nipple as they may be wanted. The priming-magazine being thus provided with the caps and its spring, it is ready for operation.

The hammer or cock by which the cap is exploded is represented by *r* in Fig. 2. It consists of a long bar or rod, which extends rearward from the nipple, the same being suitably guided so as to move back and forth in a direction of its length, and jointed at its rear end to one extremity of a rod or bar, *s*, Figs. 2, 3, whose opposite end is similarly connected to one end of a powerful mainspring, *t*. This hammer is to be drawn back by the thumb acting against a lever, *u*, Figs. 1 and 3. A small plate, *v*, Fig. 3, is applied to one side of and extends above the hammer, the said plate having a stud, *w*, projecting from its side and extending in rear of and close against the rear

side of the lever *u*. Consequently, when the top of the lever *u* is pressed rearward it carries back the hammer, which retreats until a pin or projection, *x*, Fig. 3, from one side of it, catches into a notch, *y*, of a spring, *z*. This spring is represented in Fig. 5 as detached from the breech. The lower side of its rear end is curved or formed as seen in Fig. 5. This spring also presses upon the top of the priming tube or magazine, it being shaped in such manner as to admit of the same, so that when the hammer retreats from the nipple the end of the priming-magazine tube in proximity with the nipple is depressed by the spring into a line with it and deposits a percussion-cap thereon.

The trigger by which the hammer is disengaged from the spring *z* is seen at *a'*, Fig. 3, and consists of a bent lever turning on a pin or fulcrum at *b'*. Its upper part, or that within the interior of the breech, extends rearward, and has a small stud or pin or shoulder, which extends directly under and in contact with the spring *z*, so that when the trigger is drawn back by the finger the spring *z* is lifted off the pin *y'* of the hammer, which latter is instantly thrown forward by the mainspring, and, striking against the cap on the nipple, causes it to explode and discharge the gun.

As the paper of which the cartridge is composed remains in the chamber L after the discharge, it becomes necessary to expel it therefrom before the chamber is depressed to receive a fresh cartridge. This operation is effected by means of a small piston or disk, *e'*, (see Fig. 6, which is a longitudinal section of the chamber L,) arranged in the back part of the chamber and fixed on the end of a rod, *d'*, Fig. 3, which passes through a hole bored through the end of the chamber. The disk is thrown through the chamber by the action of the discharging-trigger. An arm, *e'*, Fig. 3, attached to the trigger, is connected or jointed at its top to a bent rod, *f'*, whose opposite end is jointed to an inclined lever, *g'*, which turns or vibrates at its lower end on a pin or fulcrum, *h'*, and is connected at its upper end to the rear extremity of the piston-rod *d'*. Consequently, whenever the trigger is drawn back it throws the piston-rod forward and forces the paper of the exploded cartridge from the chamber L into the barrel of the gun.

The above comprises the whole of the mechanism, which it will be seen is arranged in a very compact manner, the whole taking up no more space than that of an ordinary gun, and doing away entirely with the cumbersome and unsightly revolving chambers with which repeating-guns are usually constructed. A fire-arm of this description, as a weapon of warfare or defense, is equivalent to five or more of the best repeating-rifles. Besides this great advantage, it possesses another which renders it superior to other guns—viz., in its carrying within itself all the ammunition and priming which can be wanted for a great length of time. As the breech is constructed of a light

frame of metal cased with thin metallic plates, the weight of the whole gun need not exceed that of those heretofore in general use.

Having thus explained the said fire-arm, I shall claim in the same as the invention of the said EDEN BALDWIN—

1. A movable loading or slide chamber and a tubular loading-magazine, in combination with the gun-barrel, is not herein claimed, but what is claimed is the hereinbefore-described manner in which such movable slide-chamber and loading-magazine are arranged, combined, and made to operate with respect to one another and the barrel, whereby a series of charges or cartridges are successfully carried from the magazine to the barrel by one sliding chamber only.

2. And in combination with the depressing-chamber or slide L and the tubular loading-magazine, I claim mechanism, substantially as described, for moving the cartridges into the depressing-chamber when depressed into line with the loading-magazine, as specified.

3. And in combination with the slide L and the lever K and mechanism by which the cartridges are drawn toward the chamber of the slide L, I claim the circular arc projection *c* and the correspondingly-curved recess *k*, the same being for holding the block L in place or at rest when the toothed sector *b* is out of engagement with the rack *h* and the lever K is in movement to actuate the rod I, as described.

In testimony that the above is a correct specification of the said improvements of the said EDEN BALDWIN, I, EDEN A. BALDWIN, 2d, administrator of the estate of the said EDEN BALDWIN, have hereto set my signature this 17th day of August, of the year 1852.

EDEN A. BALDWIN, 2d,  
*Administrator of the estate of the late Eden Baldwin.*

Witnesses:

R. H. EDDY,  
W. J. DAVIS.