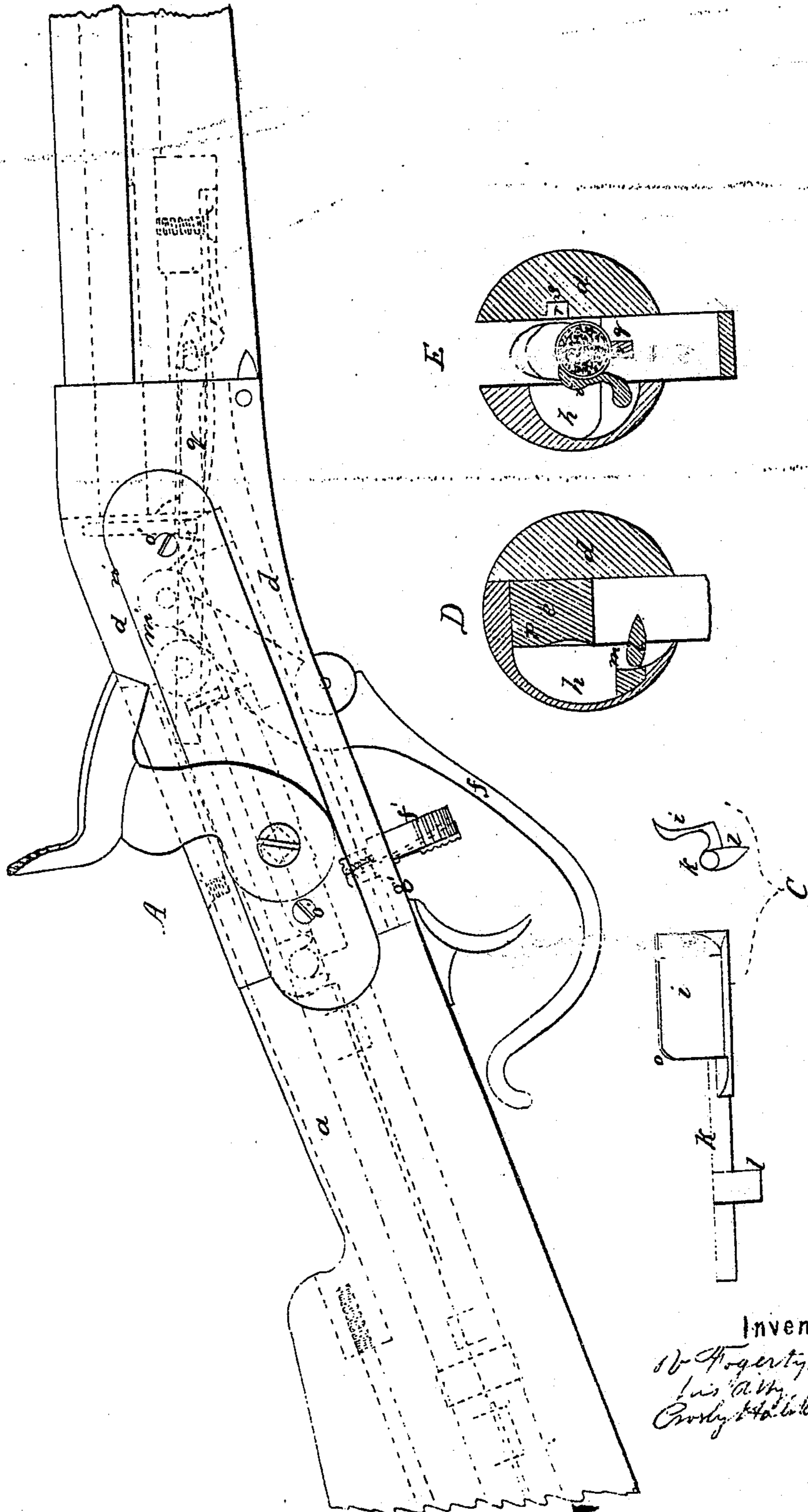


Forward-tilted Hammer,  
Magazine.

*V. Fogerty. Sheet 1. of 2 Sheets.*  
*Magazine Fire-arm.*  
*No 82819. Patented Oct. 6. 1868*

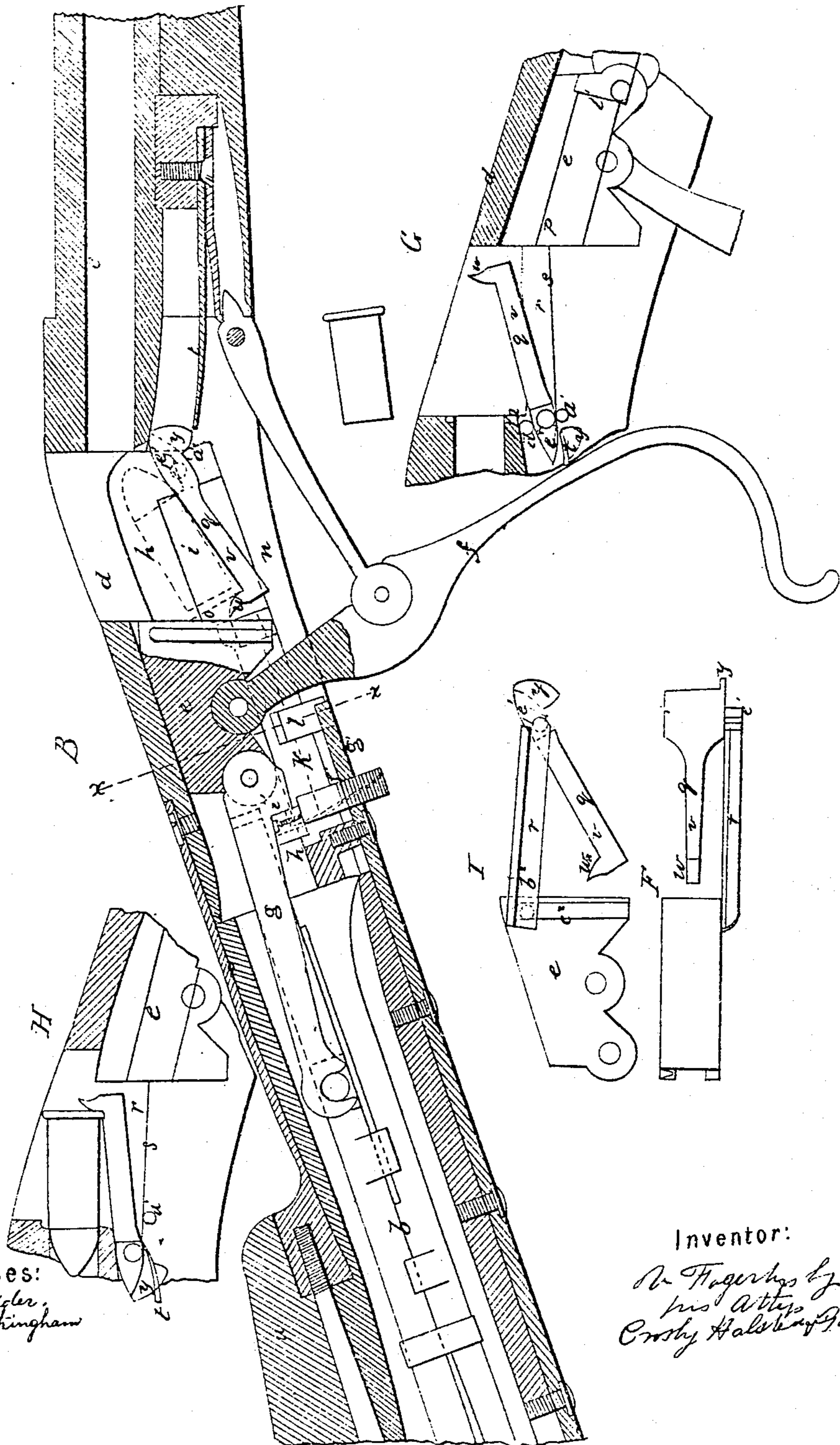


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*V. Fogerty. Sheet 2. 2 Sheets.*  
*Magazine Fire-arm.*

*No 82819. Patented Oct. 6. 1868.*



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# UNITED STATES PATENT OFFICE.

VALENTINE FOGERTY, OF ROXBURY, MASSACHUSETTS.

## IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. 82,819, dated October 6, 1863.

*To all whom it may concern:*

Be it known that I, VALENTINE FOGERTY, of Roxbury, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Magazine-Rifles; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

United States Letters Patent No. 46,459 and No. 59,126, relating to magazine fire-arms, were granted to me on the 21st of February, 1865, and on the 23d of October, 1866.

My present improvements have particular reference to fire-arms embodying the invention shown in such patents, the improvements consisting, mainly, in details of construction relating to the proper transfer and guidance of the cartridge from the magazine to the front of the breech-block, and thence into the barrel, and to the extraction and expulsion of the exploded shell; as also to an improved means of converting the arm into a single-loader by arresting the feed of the magazine-cartridges, and to the construction of the breech-frame connecting the barrels and stock, and containing the lock and the movable breech-block.

The drawings represent an arm embodying my present improvements.

A shows a side view; B, a sectional view, showing the interior mechanism.

The magazine does not differ essentially, if at all, in its construction from the magazine shown in my Patent 59,126, its method of feeding and holding the cartridges being precisely the same. I do not, therefore, show the interior of the magazine. Neither is the general arrangement of the breech-block within the breech-frame, with respect to its connection with and manner of operating the magazine tube or slide, and with respect to the guard-lever by which it is operated, essentially different from the arrangement shown in my said 1866 patent, and I shall not therefore particularly describe such breech-block and connections.

*a* denotes the stock; *b*, the magazine located therein; *c*, the barrel; *d*, the metal breech frame or case containing the movable breech-block *e*, and connecting the barrel and stock. *f* is the guard-lever, which operates the breech-

block, and *g* the link connecting the breech-block to the magazine-tube.

In one side of the frame *d* is the cartridge-pocket *h*, in line with and forming a continuation of the magazine. In my second patent, the cartridge (fed forward into this pocket) is carried over laterally into line with the barrel by tipping the arm, the cartridge moving by gravity. To insure this movement of the cartridge by positive means, not dependent upon gravity, I now combine with this pocket a finger, *i*, which normally lies against the back side of the pocket, to allow the cartridge to come into the pocket, and which is swung over laterally when the breech-block is drawn down, and throws over the cartridge into line with the barrel. This finger *i* has a journal or journals, *k*, and the finger is operated as follows: The journal-pin, as seen at the detail C, (which shows side and end views of the cartridge-finger,) is quite long and extends back in the frame, having near its rear end an arm or projection, *l*, opposite to and receiving which is a notch, *m*, cut in the frame on one side of the lever-guard mortise *n*. When the cartridge-finger lies back against the wall of the pocket *h*, this projection *l* assumes the position shown at D, (which is a cross-section on the line *xx* of B,) the end of the projection extending into the mortise. The front cartridge having been fed forward into its pocket *h* by the advance of the breech-block, as the breech-block is next thrown back the adjacent side of the upper end of the guard-lever strikes against the projection *l* and throws it down into the notch *m*, thereby turning the journal *k* axially and tipping the finger *i* forward laterally, throwing the cartridge from its pocket over into the center of the frame, as seen at E, which is a cross-section, in line with the finger. The rear upper corner of the finger is curved, as seen at *o*, and the side of the breech-block adjacent to the pocket may be slightly concaved, as seen at *p*, and when the breech-block next goes forward the front corner of the breech-block strikes the curved corner of the finger and throws it back into its pocket, out of the way of the advancing breech-block, and back from the path of the cartridge next to enter the pocket.

In my 1866 patent the device which received the cartridge from the pocket and carried or guided it into the barrel, and which withdrew

## Breech-loading,

## Sliding Breech-block,

## Rearward-Pivoted Hammer,

## Magazine.

82,819

and ejected the exploded shell, consisted of two plates hinged together and to the breech-block, the upper plate having on one side a finger for retracting the cartridge, this device being shown in detail in Fig. 11 of the drawings forming part of said patent.

In my present invention I simplify this construction, employing a cartridge-guide retractor and ejector lever,  $q$ , made of a single piece, hung on a pin projecting from a link which connects the lever to the breech-block. This lever is shown at B, and at I and F, I representing a side view, and F a plan, of the lever, the breech-block, and the connecting-link.

The link  $r$  fits into and slides in a guide-groove,  $s$ , made in the side of the breech frame, as seen at G E, and the lever slides forward under the barrel, and rests upon a spring,  $t$ , as seen at A. The long arm of the lever, in rear of its fulcrum-pin  $u$ , is made as a narrow tongue,  $v$ , as seen at F, and traverses centrally through the frame-mortise as the breech-block is moved forward and back, its rear end having a tip,  $w$ , projecting up from it, as seen in the drawings, this tip entering a notch,  $z$ , when the lever is drawn under the barrel, and being pressed by the spring  $t$  up in front of the cartridge lip or flange. The front end or short arm of the lever is made of a width corresponding, or nearly so, to the mortise, and this end has an ear or projection,  $y$ , extending down from one side of it, as seen in the drawings. Projecting into the path of movement of this ear is a stationary pin or stud,  $a'$ , against which the ear strikes as the breech-block and lever are completing their rear movement, the contact of the ear with the stud tipping up the front end of the lever, and thereby throwing down its rear end, as seen at B. The link  $r$  is connected to the breech-block by means of a pin,  $b^2$ , projecting from the link into a groove,  $c^2$ , in the breech-block, this groove permitting the vertical movements of the breech-block, while the link keeps within the guide-groove  $s$ .

The operation of the lever is as follows: The arm having been fired, the guard-lever is carried down to the position shown at B. As the guard-lever descends, and the retractor-tip  $w$  moves back, the tip pushes against the cartridge-flange and carries the cartridge-shell back with it. Projecting into the upper part of the guide-groove  $s$ , in which the link  $r$  slides, is a stud or pin,  $d'$ , and on the adjacent side of the lever  $q$ , just in front of its fulcrum-pin, is a projection,  $e'$ , having an incline on its upper face, as seen at I. As the shell leaves the barrel this incline strikes the pin  $d'$  and tips up the tongue  $v$  suddenly, as seen at G, with force sufficient to expel the shell from the arm, there being an inclination at the rear end of the recess beneath the barrel, to permit the throwing up of the tongue by the contact of the stud  $d'$  and projection  $e'$ . As the tongue and its tip, by this rear and tipping-up movement, are brought opposite to the pocket in which the new cartridge lies, it becomes necessary to carry them

below the horizontal plane of the pocket, for which purpose the ear  $y$  and the stud  $a'$  are employed. Just before the lever  $q$  completes its rear movement its rear arm passes beyond the spring  $t$ , and the ear  $y$  strikes the stud  $a'$ , throwing down the tongue, as seen at B, and the completion of the rear movement of the breech-pin and guard-lever tips the finger  $i$ , and carries the cartridge over, as before set forth, onto the tongue and into line with the barrel. The arm having been thus relieved of its exploded cartridge-shell, and a new cartridge having been carried over into the vertical plane of the barrel, the guard-lever is next thrown up to carry the cartridge into the barrel and close the breech-block upon it; and during this movement the ejector-lever and its tip are brought into requisition to guide the cartridge into the barrel, as follows: The tongue travels straight forward, or nearly so, until the point of the cartridge comes to the barrel, when the spring  $t$  throws the tongue up, and with it the cartridge, causing the cartridge to enter the barrel, and holding it in axial line with the barrel while it completes its entrance, the tip dragging it forward and forcing it home. As the cartridge is thus forced home, the tip  $w$  is pressed down by the cartridge-flange, and passes by and slips up in front of the flange, in position for ejecting the shell after firing, as before described. To allow the projection  $e'$  on this lever to pass the stud  $d'$  in its rear movement, the stud may be made yielding.

It is sometimes desirable to use the arm as a single-loader, though the magazine be charged, to a greater or less extent, with cartridges.

To temporarily convert the charged arm into a single-loader, I employ a device which arrests the movement of the magazine-cartridges, such device being applied and arranged to operate as follows: A sliding pin,  $f'$ , extends up through the trigger-plate  $g'$ . This pin has connected with it a spring-piece, having two nicks or notches therein, the one serving to lock the pin firmly in position when pushed upward, and the other to lock it firmly in its position when pushed downward, by means of which there is no possibility of accidental derangement or shifting of position, and hence the weapon can only be changed from a single-loader to a repeater, and vice versa, by the deliberate act of the operator. This pin bears at its upper end a stop,  $h'$ , which, when the pin is pressed up, comes up in the rear of the breech-block, or of the shoulder  $i'$  in the link  $g$ , (which connects the block to the sliding part of the magazine-tube,) and in such position with respect thereto as to arrest the breech-block in its rear movement, thereby producing a correspondingly short movement of the magazine-slide, the movement of the magazine-slide being arrested before the notches therein can come into connection with the cartridge-flanges in rear of them, and failing so to connect, the slide, of course, when it next goes forward, fails to carry any cartridges with it,

all the magazine-cartridges being thereby kept stationary in the stationary half of the magazine, while, by dropping a cartridge in front of the breech-block when the guard-lever is thrown down, said cartridge will be forced into the barrel when the guard-lever is raised, and its shell will be ejected (after firing) by again throwing down the guard-lever in precisely the same manner as when the cartridges are transferred from the magazine to the barrel, as has been set forth.

To prevent the forward cartridge, when being moved up into the pocket *h*, from sliding forward too fast or too far as the breech-block is moving forward, I make in the side of the breech-block a depression, *l'*, in which the adjacent side of the cartridge lies as it goes forward, the shoulder in front of and made by this depression holding the cartridge back or preventing it from going forward any faster than the breech-block goes, the flange slipping out from this notch when it reaches the pocket, and slips laterally into an opposite notch in such pocket. The cartridge, after being thrown forward into the pocket, drops a little, and thus is relieved of the notch, and the breech-block, which is then in its retrograde motion, passes over it, taking the next cartridge in rotation.

In my arm patented in 1866, and in all other breech-loading arms, so far as I know, the lock-plate (with its lock mechanism) has been inserted in a recess or mortise sunk, in whole or in part, in the stock, the lock-plate and lock having to be separately removed to remove the metal breech-frame.

In my present arm I combine the lock-plate and lock directly with the metal frame, or so as to form a direct part thereof, the plate having fastenings entering the stock, and being applied to and removed from the arm as a part of the frame. This construction is shown at *A*, where the lock-plate *m'* is sunk in a mortise, *n'*, in the metal frame *d*, its sides and edges being flush with the surface of the frame, and its fastenings *o'* only entering the frame *d*, the lock and plate being thereby made a part of the mechanism of the frame.

I am aware that it is not new to limit the play of a carrier breech-block, so that it shall not receive the cartridge from the magazine.

I claim—

1. In combination with the magazine, the rocking finger *i*, for throwing the cartridge laterally from line with the magazine into line with the barrel, substantially as set forth.

2. Also, throwing the finger *i* laterally forward by the rear movement of the guard-lever against the arm *l* on the finger-journal or rock-shaft, substantially as described.

3. Also, throwing the finger back to its former position by the forward movement of the breech-pin directly against it, substantially as described.

4. Also, combining with the breech-block a notch, *l'*, for receiving the cartridge-flange, and for preventing undue movement of the cartridge, moving forward at the side thereof, when the same in its retrograde motion releases one cartridge and takes the next in rotation, substantially as described.

5. Also, the lever *q*, with its tongue *v* and tip *w*, constructed substantially as shown, and operating, in conjunction with spring *t*, to withdraw and expel the cartridge-shell, and to guide the cartridge into the barrel, substantially as set forth.

6. Also, the combination, with lever *q*, having projections *y* and *e'* thereon, of the studs or pins *a'* and *d'*, for tripping the lever in its forward and back movements, upward and downward, by positive action in both directions.

7. Also, connecting the lever *q* with the breech-block *e* by the link *r*, by means of a pin, *b<sup>2</sup>*, projecting into a groove, *c<sup>2</sup>*, in the block, substantially as and for the purpose set forth.

8. Also, combining with the magazine-slide and the breech-block the pin *f'* and its notched spring, for arresting positively the feed of the cartridges, substantially as described.

VALENTINE FOGERTY.

Witnesses:

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