

(No Model.)

2 Sheets—Sheet 1.

A. SCHNEIDER.  
Magazine Fire Arm.

No. 228,560.

Patented June 8, 1880.

Fig. 1.

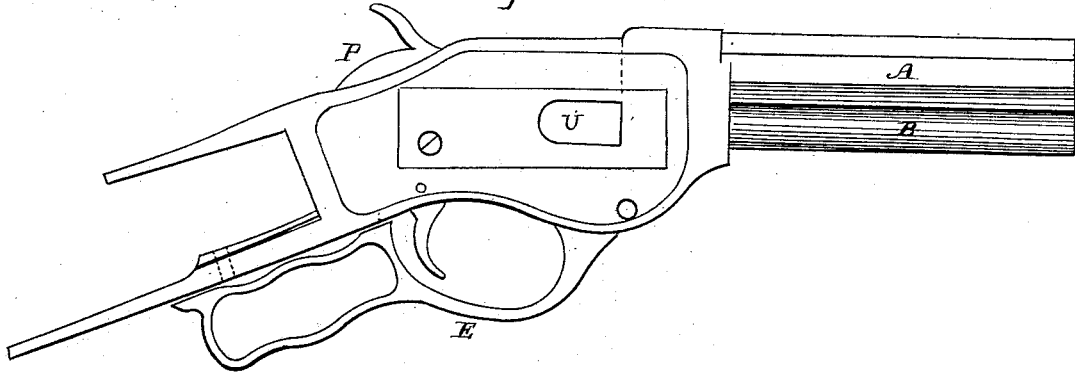


Fig. 2.

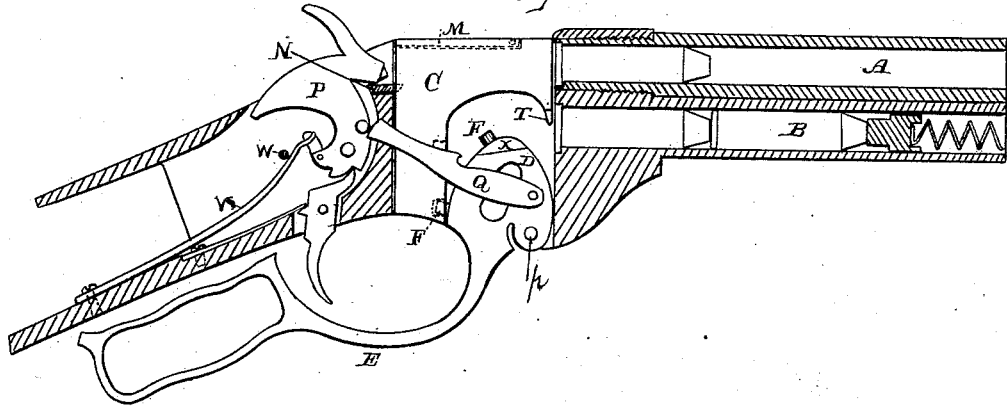
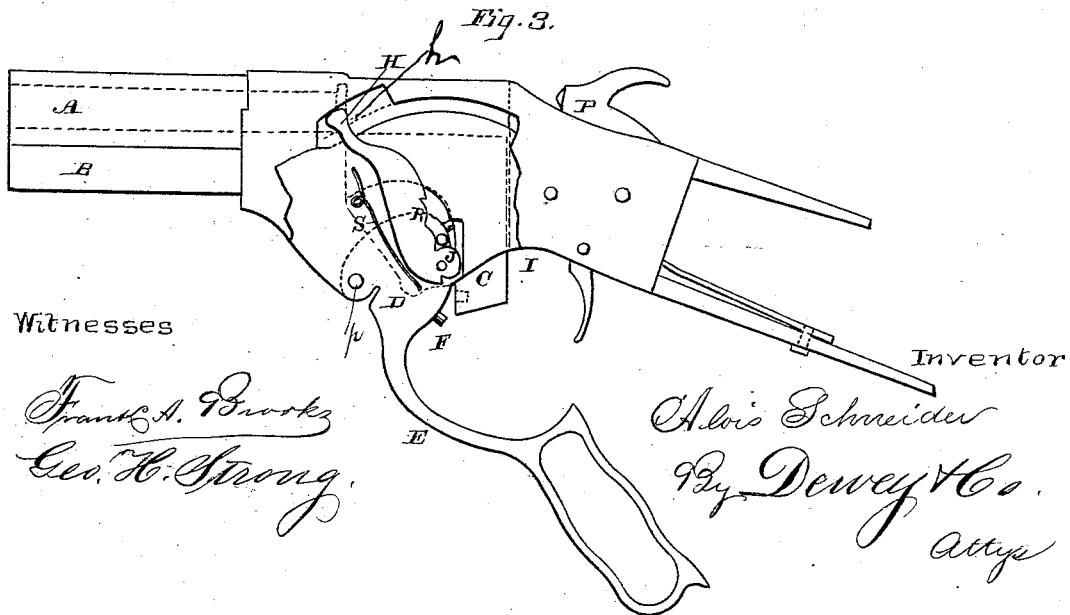


Fig. 3.



Witnesses

*Francis A. Brooks*  
*Geo. H. Strong*

Inventor

*Alvis Schneider*  
*By Dewey & Co.*  
*Attys*

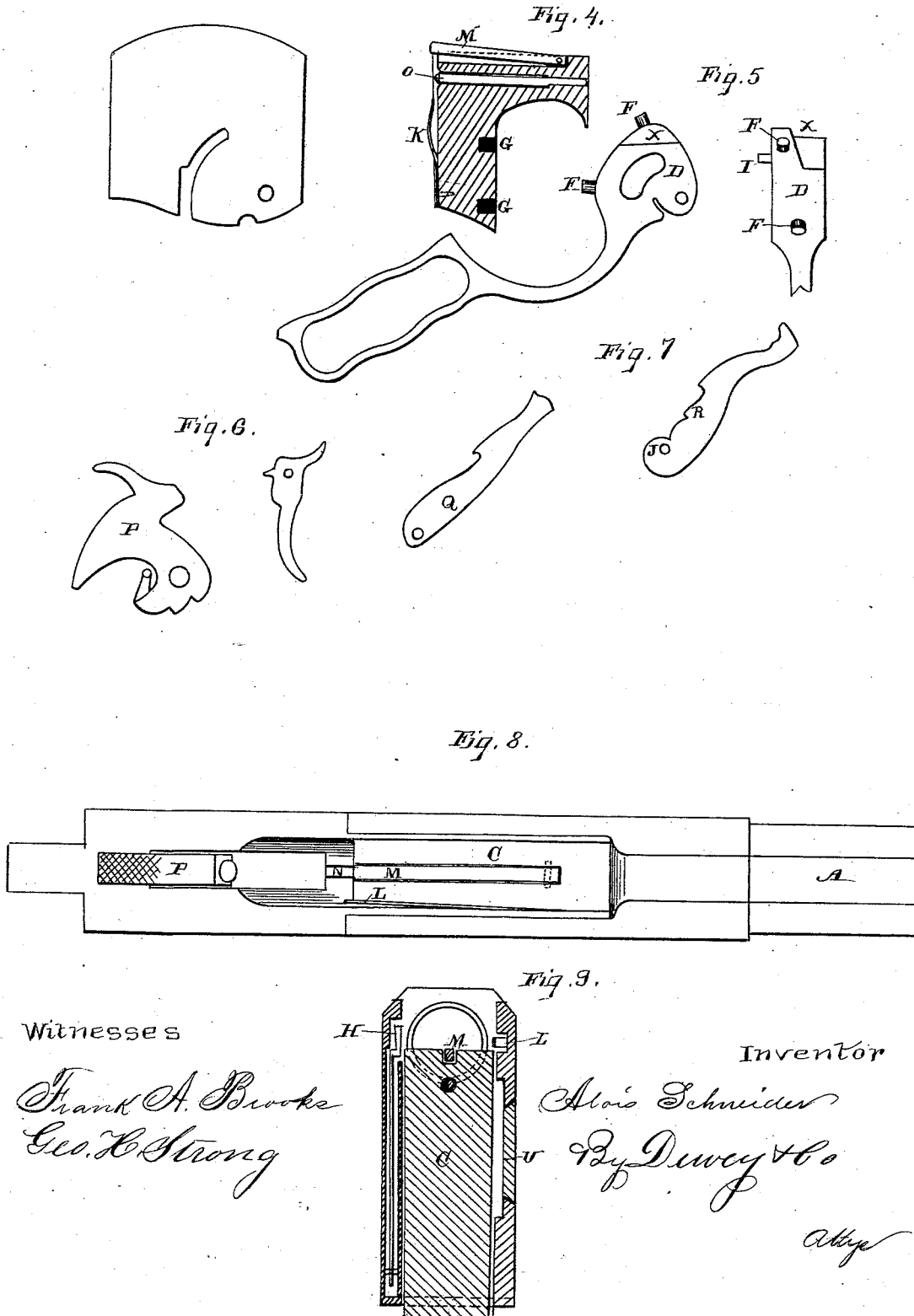
(No Model.)

2 Sheets—Sheet 2.

A. SCHNEIDER.  
Magazine Fire Arm.

No. 228,560.

Patented June 8, 1880.



Witnesses

Frank A. Brooks  
Geo. H. Strong

Inventor

Alois Schneider  
By Duwey & Co

Atty

# UNITED STATES PATENT OFFICE.

ALOIS SCHNEIDER, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO ANDREW RHEUDE, OF SAME PLACE.

## MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 228,560, dated June 8, 1880.

Application filed March 11, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, ALOIS SCHNEIDER, of the city and county of San Francisco and State of California, have invented an Improved Breech-Loading Magazine Fire-Arm; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in breech-loading magazine fire-arms; and it is especially adapted to be used in cases where the magazine extends beneath and parallel with the barrel of the arm.

In magazine-arms it is desirable, for various reasons, to use a vertically-moving breech-block and carrier; but in an arm having such construction, to make it successfully operative the breech-block must pause in its travel regardless of the movement of its operating-lever while the cartridge is being forced forward into the barrel; otherwise the breech-block would press against the cartridge and bind it so it could not be forced into the barrel.

My invention consists in a vertically-moving breech-block, in combination with an operating-lever provided with means for giving the block an intermittent movement, whereby the breech-block is made to pause when opposite the barrel while the cartridge is forced home, the operating-lever moving continuously.

My invention also consists in the employment of a vertically-sliding solid breech-block having the lower front cut away to receive the head of the guard-lever, while the rear or vertical portion is perforated to receive actuating-pins, which project from the convex head of the guard-lever and which draw the block down when the lever is moved. The shell-extractor is operated from the head of this lever, and an arm from the opposite side of this head connects with the hammer and cocks the gun.

A spring arm or plate upon the top or at one side of the breech-block takes an inclined position when the block begins to move downward, and acts as a guide to the ejected shell, and the same device or devices act to prevent the fresh cartridge from being thrown out after it leaves the magazine and before it enters the barrel.

The hammer is caused to rebound after striking and firing the cartridge by a simple contrivance and without any spring.

Referring to the accompanying drawings for a more complete explanation of my invention and the details of construction, Figure 1 is an exterior view of my gun. Fig. 2 is a longitudinal vertical section, showing the side of the breech-block and link or arm for cocking the gun. Fig. 3 is a section showing the opposite side of the breech-block and shell-extractor. Figs. 4, 5, 6, 7 are detailed views of operating parts of my gun. Fig. 8 is a top view of the gun. Fig. 9 is a transverse section through the breech.

A is the barrel of my gun, and B is the magazine, which I have shown in the present case as extending beneath the barrel and opening into the space in the frame behind the barrel, in which the breech-block works.

The breech-block C is a solid piece of metal, its upper part having a length sufficient to fill the space in the frame in which it moves, and the rear portion extends downward to about an equal length. This leaves a space at the lower front portion, so that the block resembles a small carpenter's square in outline, the under surface of the top portion being slightly curved or arched, as shown, so as to admit the head D of the guard and operating-lever E. A pin or screw passing through the lower part of this head serves to hold it in place in the frame, and also as a fulcrum about which it moves. The upper back portion of the head is curved about this pin as a center, so as to form a segment nearly equal to one-quarter of a circle, and two pins, F F, project from the face of this curve. The rear vertical portion of the breech-block has holes or sockets G formed in it to correspond with the pins F, and it will be seen that when the guard-lever is thrown down these pins will successively enter their corresponding holes and draw the breech-block down. The distance between the pins upon the head is, however, greater than the distance between the holes into which they are to fall, so that when the first or lowest pin has moved the block down to the point where its upper surface is just below the opening into the barrel of the gun it will leave its hole, and the breech-block will remain stationary.

A further movement of the guard-lever causes the head to rotate until the second or upper pin arrives at a point where it will enter its hole in the block and finish the downward movement of the block. During the time the block remains stationary the extractor H is thrown back to eject the shell by the continued movement of the head D. This is effected by means of a pin, I, upon the side of the head D, this pin projecting so as to act upon a projection, J, on the extractor-arm, near its point of support. After the extractor has been thrown entirely back the second pin enters its hole in the breech-block, and the further movement of the lever E completes the downward movement of the breech-block, as before described, depressing it until it is low enough to allow a cartridge to pass from the magazine upon the top of the block, which thus acts as a carrier.

A spring, K, upon the rear of the breech-block causes it to fit snugly, and holds it at the point in the frame where it is to remain motionless, so as to insure the proper fitting of the pins into their respective holes when the head has turned far enough to bring them to that point. A spring-arm, L, within the side of the frame prevents the cartridge from being thrown out before it reaches the barrel, and by a slight change in form this same arm might be made to serve as a guide in ejecting the empty shell.

In the present case I have shown an arm, M, fitting into a slot or groove in the top of the breech-block, and having its front end pivoted and actuated by a spring, so that its normal position is flush with the top of the block; but as the breech-block commences to move down the rear end of this arm engages a spring-catch, N, which projects slightly from the rear of the frame. This catch holds the rear end of the arm M so that as the block continues to descend this arm assumes an inclined position, and when the breech-block has reached a point below the chamber of the barrel and the extractor operates to throw the shell out the shell is guided by the arm M and thrown clear of the gun. When the breech-block continues its movement downward the arm M is disengaged from the catch N and falls into its groove, so as to be flush with the top of the block again.

The firing-pin O passes through the upper part of the breech-block, so as to stand in line between the hammer and the priming on the cartridge when the breech is closed, and it is actuated by a blow of the hammer when it falls, as is usual in such guns; but in my gun there are no intermediate pins or mechanism between the hammer and the firing-pin or the firing-pin and cartridge.

The hammer P is thrown back and the gun cocked when the lever is thrown down by the action of the arm Q. This arm has a pin at its end, which engages with a hole in the side of the head D, and the opposite end presses against a pin upon the side of the hammer

above its center of motion, so that it will force the hammer back until it reaches full cock. The return of the lever withdraws the arm Q, and leaves the hammer free to fall.

The shell-extractor H is moved by an arm which is situated within a narrow slot or chamber upon the opposite side of the space in the frame, separated from the breech-block by a thin plate in order to prevent friction between the two. This plate has a curved slot from its lower edge, through which the actuating-pin from the head D extends to move the extractor-arm. The lower end of this arm has one edge above the projection J notched in cam-shaped curves R, upon which the pin acts when the breech-block is rising to force the extractor behind the rim of the shell after the latter is seated in the chamber of the barrel.

The extractor also acts as a carrier-arm to seat the cartridge in the chamber of the barrel after the breech-block has raised it to a point opposite the chamber, as follows: When the breech-block has reached its lowest point its upper surface will be just below the level of the magazine, so that a cartridge will enter the space above the breech-block.

The arm or plate M, if situated, as in the present case, upon the top of the breech-block, will lie flush, and the spring-arm L projects just enough from the side of the breech-block chamber to prevent the cartridge from being thrown out.

The head H of the extractor is entirely in the rear of the chamber, having been thrown back to that point by the pin acting upon the shoulder J, as before described, and it is held there by a slight spring, S. Everything being in this position the lever E is drawn back and the upper pin upon its head will raise the breech-block until the cartridge is opposite the barrel. This pin now becomes disengaged from the breech-block, and the continued motion of the lever rotates the head D, and by the action of the pin upon the projection J the head H of the extractor is thrown forward, and thus seats the cartridge in the barrel. The second pin F then engages its hole in the breech-block, and the latter continues its upward movement. As it does so it strikes the edge of the head H and forces it to one side in an appropriate depression, so as to allow it to pass the rim of the cartridge. At the same time the pin on the lever-head strikes the curve R upon the back of the extractor-arm, and thus forces the head H beyond the rim, where it is allowed to spring out into position to retract the shell when the lever is again thrown down.

A small projection, T, at the lower front edge of the breech-block prevents the cartridges from being forced out of the magazine into the space below the breech-block when closed, but at the same time allows the magazine to be charged through the rear end by pressing them in through a spring-plate opening at U. To enable this plate to be pressed inward to admit the cartridges when the le-

ver E is up and the breech closed, the top of the lever-head is filed off from one side at X, so that the space between it and the upper part of the breech-block is sufficient to admit the plate to be pressed back; but the curve of the head will prevent the plate from being pressed back at any other time. To allow the top of the head to be filed off, as described, without interfering with the upper pin F the latter is set over to one side a short distance.

The hammer is actuated by a mainspring, V, which is secured to the frame behind the hammer, and its front end is connected with the hammer by a link. In order to make what is known as a "rebounding lock," and return the hammer to the safety-notch, so that it will not rest upon the firing-pin after it falls, a pin, W, extends across the frame at a point where the end of the mainspring will just strike it as the hammer reaches the point opposite the safety-notch of the tumbler. This causes the hammer to strike the firing-pin by its momentum, and the recoil will bring it back into the safety-notch, as the spring does not follow it all the way down.

It will be seen that this gun may be used as a single breech-loader, and the barrel charged directly without using the magazine, by simply throwing the breech-block half-way down. This ejects the empty shell, throws the extractor back, but does not uncover the magazine. The cartridge may be introduced from the top after each discharge without using those in the magazine.

The rear of the frame is grooved out, so that when the breech-block is down this groove is in line with the barrel, and the interior may be inspected and cleaned from the rear.

This construction enables me to place the spring-catch N so low that the arm M is not raised from its seat in the breech-block until the latter has been depressed below the bore of the gun. This allows the cartridge to be thrown out with certainty every time, which would not be the case if the standing breech or rear of the frame were carried up to the full height.

This construction also enables me to load the gun from the rear in using it as a single breech-loader without making the breech-block chamber longer than the cartridge, which could not otherwise be done.

I am aware that single breech-loading guns having a sliding breech-block have been made

with the standing breech cut away to admit of the introduction of the cartridges; but I am not aware that any magazine-arm has been thus constructed, and I claim that this construction enables me to use the gun as a repeater or single breech-loader at will without unduly lengthening the frame.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The lever E, with its curved head D, having projecting lugs F, adapted to raise or depress the breech-block by engaging corresponding holes in said block, the space between the lugs being greater than that between the holes, so that the movement of the breech-block shall be made intermittently, substantially as herein described.

2. The shell-extractor H, swinging in a slot at one side of the breech-block chamber and having the arm formed with the projection J and curved outline R, consisting of two curves struck from different centers, in combination with the pin I, upon the head of the lever, whereby the extractor is caused to swing forward by an intermittent movement, substantially as and for the purpose herein described.

3. The vibrating extractor H and lever-head D and pin I, in combination with the vertically-moving breech-block C, provided with a housing having a recess, h, adjacent to the end of the barrel, whereby the operation of the breech-block passes the extractor around the rim of the cartridge, substantially as set forth.

4. The diagonally-arranged spring arm L, fitted into the side of the breech-block chamber and one end secured between the chamber and the barrel, so that it prevents the rising cartridge from being thrown out, the said spring being pressed back into its seat by the upward movement of the breech-block.

5. In a magazine fire-arm, a vertically-moving breech-block, in combination with an operating-lever provided with means, substantially as described, by which the breech-block in its upward movement is made to pause in a line with the barrel, while the lever continues to move, for the purpose set forth.

In witness whereof I have hereunto set my hand.

ALOIS SCHNEIDER.

Witnesses:

S. H. NOURSE,  
FRANK A. BROOKS.