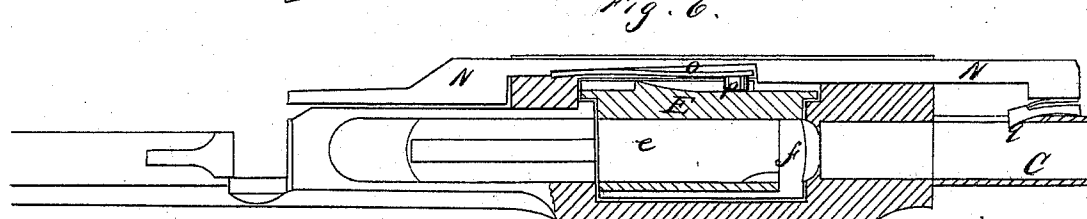
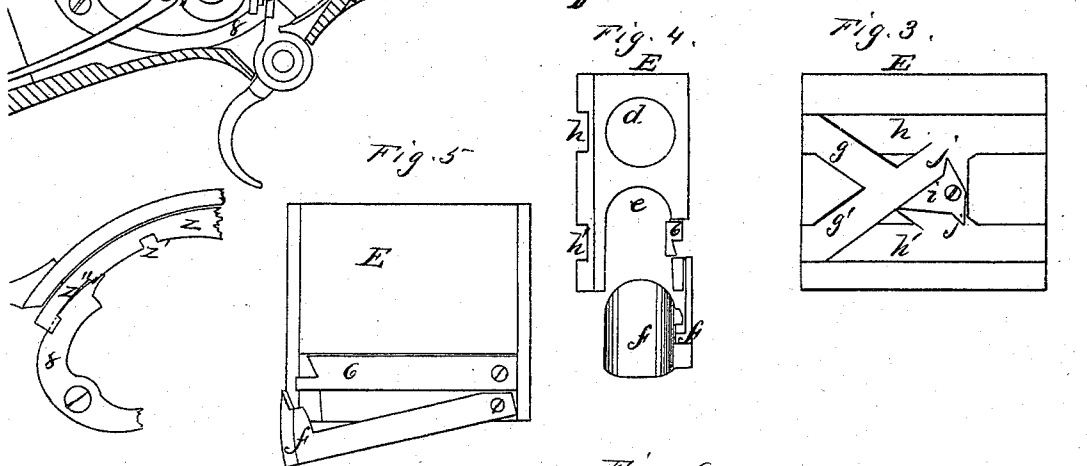
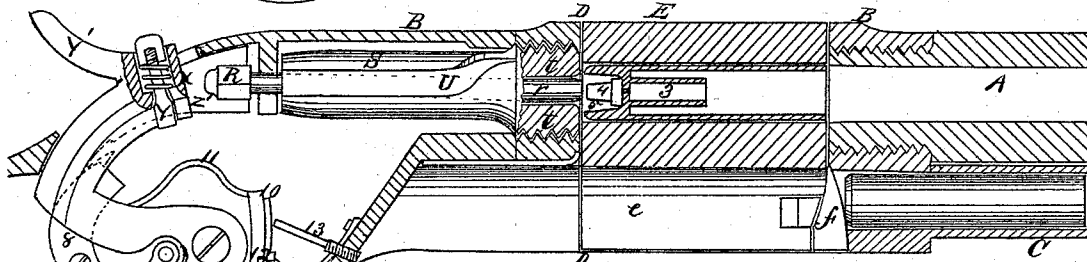
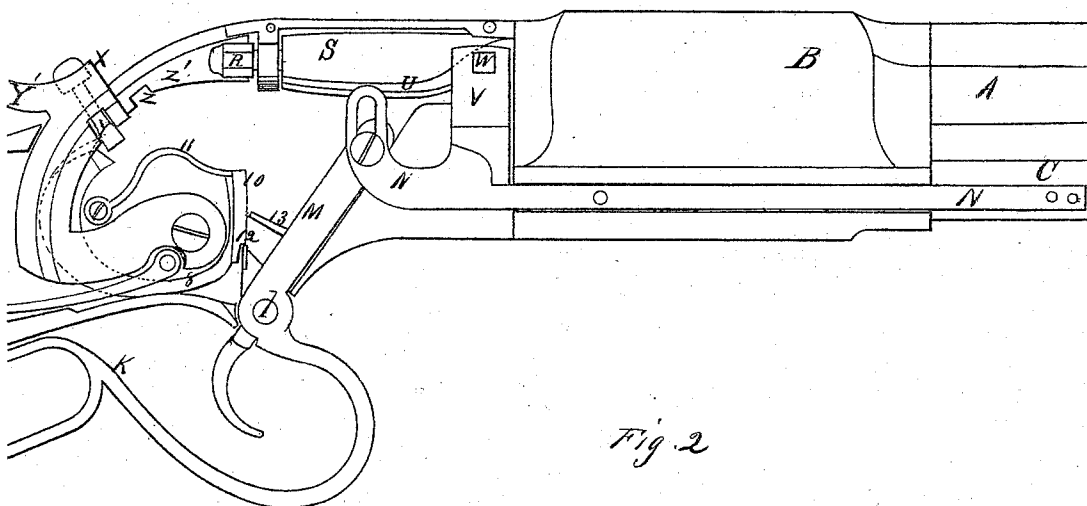


A. SWINGLE.
Magazine Guns.

No. 137,392.

Patented April 1, 1873..



Witnesses

W. F. Brigham
J. L. Doane

Inventor

Alfred Swingle
by Dever 16
his Atty's

UNITED STATES PATENT OFFICE.

ALFRED SWINGLE, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO HIMSELF AND FRANK A. HUNTINGTON, OF SAME PLACE.

IMPROVEMENT IN MAGAZINE-GUNS.

Specification forming part of Letters Patent No. **137,392**, dated April 1, 1873; application filed November 28, 1871.

To all whom it may concern:

Be it known that I, ALFRED SWINGLE, of San Francisco, county of San Francisco, State of California, have invented Improvements in Repeating Fire-Arms; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvements without further invention or experiment.

My invention relates to that class of small-arms known as repeaters; and it consists, first, in a sliding breech-block of novel construction, as hereinafter described, which is operated by means of the trigger-guard so as to drop down and receive a cartridge from the magazine or cartridge-barrel, and then be lifted so as to carry the cartridge in a line with the bore of the barrel in the proper position for being fired; secondly, in a safety arrangement to prevent accidental discharge, consisting of a pin passing through the hammer and catching in a suitable socket or recess, as hereinafter more particularly described.

In order to more fully illustrate and explain my invention, reference is had to the accompanying drawing forming a part of this specification, in which—

A represents a section of the barrel of any gun or pistol which is intended to carry a ball. The bore of this barrel is made slightly oval or elongated in one direction, and this oval is carried to the muzzle spirally, similar to the twist of the rifles in the ordinary rifled barrels. In connection with this bore, I prefer to use a round ball as being the true missile for fire-arms; but a conical ball can be used, if desired. In firing the ball will be swaged into the oval bore by the explosion of the powder, and be compelled to follow the twist of the bore, in the same manner that the rifles in the ordinary barrel guides the ball so as to impart to it a rotary motion through the air; or an ordinary rifled barrel can be used, if desired. The barrel A is fixed in the end of the square metal stock-frame B, and is provided with a magazine or cartridge-barrel, *c*, which extends along its under side, as shown. The metal stock-frame B is a single casting, which is properly

chambered and grooved to receive the operating mechanism of the gun. A square passage, D, is made vertically through the frame B back of the barrel A in which a sliding breech-piece, E, is operated to alternately supply a cartridge from the magazine and remove the shell after the charge has been fired. The breech-piece E is provided with a bore, *d*, which will be directly in line with the bore of the barrel A when the breech-piece is raised to its proper position, and on its under side is a deep channel, *e*, which communicates at its forward end with the magazine or cartridge-barrel when the end plate *f* is lifted, in the manner hereafter described. One side of the breech-piece E is provided with diagonal cross-grooves *g* and *g'*, and an upper and lower horizontal groove, *h h'*. The horizontal grooves *h h'* as they approach the diagonal grooves at the rear end of the breech-piece C are gradually made shallower, so as to form an inclined plane in that direction, and to provide a square shoulder along the line of the diagonal grooves, so as to guide the pin which moves them in the right direction. A triangular-switch-bar, *i*, is pivoted forward of the crossing point of the diagonal grooves, and is provided with a tripping-horn, *j*, at each corner of its base, by which its movements are rendered automatic. This bar serves as a gate to close the passage in one direction and guide the operating-pin along the diagonal grooves, for the purpose of raising and lowering the breech-piece. The trigger-guard K is provided with a suitable hand-hold, as shown, and is arranged to turn about the screw *l* as a fulcrum. An arm, M, extends up into the interior of the metal frame B, and is secured by a pin and slot to the rear end of a sliding bar, N, which extends forward in a channel in the side of the frame, and which is deep enough to communicate with the mortise D. A flat spring, *o*, is fastened to the inside of this bar, which has a pin, *p*, at its extremity as shown. This pin, when the bar is moved back and forth by the trigger-guard, traverses the channel along the side of the passage D, and moves in the grooves *g g' h h'*, in the side of the breech-piece, and moves it alternately up and down. The forward end

of this bar is provided with a downward-projecting claw or catch, *q*, which moves back and forth in a slot in the side of the magazine chamber, so as to push a cartridge backward into the bore *d*, when the breech-piece is depressed, each time the bar is thrown back and forth by the trigger-guard. The firing-pin *r* passes longitudinally through a small cylinder, *S*. The forward end of this cylinder is provided with an enlarged head, *t*, which is formed into a screw, and which turns in a socket so as to pass through into the passage *D*. A groove, *U*, is made along the side of this cylinder, which is formed into a cam after it passes its middle. An arm, *V*, extends upward from the sliding bar, *N*, from the end of which a pin, *W*, depends, so as to traverse this groove and partially revolve it at each throw of the bar *N*. In order to render the hammer *X* perfectly secure and prevent its going off by accident, a pin, *y*, passes down through it just in front of the thumb-piece *y'*, which has a shoulder extending to one side, as shown. A recess, *Z*, is made in the ledge *Z'*, against which the hammer works, into which this shoulder is held by a spring when it is desired to carry the gun at half-cock. By depressing the pin with the thumb at the moment of cocking the gun, the shoulder is released from the recess and the hammer allowed to come to the full-cock; when the hammer is released from the full-cock, the shoulder will pass the recess without locking, the movement of the hammer being too quick to allow it to catch. Another recess, *Z''*, is made in the ledge *Z'*, in the proper position to receive the shoulder of the thumb-piece *y'* when the hammer is drawn back to the full-cock. A C-shaped bar, *8*, is pivoted at its middle behind the hammer, in such a position that while one end passes forward under the screw upon which the hammer works the opposite end is just back of the thumb-piece *y'*. This end of the lever is formed into a wedge, *9*, as shown. A vertical plate, *10*, is held by a spring, *11*, in such a position that as the hammer is thrown back the plate will be lifted until the trigger catches upon the shoulder *12*. Upon pulling the trigger so to release it from the shoulder *12*, the spring *11* will throw the plate *10* downward against the end of the C-shaped bar *8*, and by moving it about its pivot force the wedge *9* under the shoulder of the thumb-piece *y*, so as to free it from the recess *Z''* and fire the gun. A screw, *13*, is set in front of the trigger, by means of which the plate *10* can be adjusted in order to give a light or strong catch upon the shoulder *12*, as desired.

The method and operation of my repeating arm are as follows: The cartridges are placed in the magazine by holding the gun with its barrel down and dropping one at a time into the channel *e* on the under side of the breech-piece; then by sliding it forward a spring, *5*,

is thrown back so as to release the end plate *f* and allow it to be lifted; this reveals the opening into the magazine, which can be then readily filled. When it is desired to load the gun after firing, the trigger-guard *K* is thrown forward and back so as to drop the breech-piece *C* to its lowest position; this I denominate movement No. 1. The same movement being repeated causes the claw *q* to push a cartridge from the magazine into the bore *d*, thus forcing out the shell of the discharged cartridge into the channel in the rear of the depressed breech-piece and substituting in its place the loaded one, and also lifts the breech-piece to its proper position with the cartridge in line with the bore of the gun; this I denominate movement No. 2. The forward movement of the lever or trigger guard also causes the cylinder *S* to be given a quarter revolution. This revolution turns the screw-head *t* backward so as to retract the cylinder and free the empty shell, and after the loaded cartridge has been brought to its proper position the backward motion of the trigger guard revolves the cylinder in the opposite direction, and causes it to move forward against the butt end of the shell and press it tightly against the rear end of the barrel in order to make a tight joint and prevent any leakage of the gases.

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

1. The breech-block *E*, provided with the diagonal grooves *g g'* and horizontal grooves *h h'*, in combination with the horizontally-moving pin *p*, substantially as and for the purpose set forth.

2. The switch-bar *i* having the tripping-horns *j*, in combination with the breech-block *E* having the diagonal grooves *g g'* and horizontal grooves *h h'*, substantially as and for the purpose set forth.

3. The horizontal sliding bar *N*, provided with the pin *p*, claw *q*, and arm *V* with its pin *w*, in combination with the trigger-guard *K* with its arm *M*, substantially as and for the purpose above described.

4. The cylinder *S* having an enlarged screw-head, *t*, and having the cam-groove *U* in combination with the stud *W* operated by means of the slide, substantially as and for the purpose specified.

5. In combination with the hammer *X*, the pin *Y*, with its shoulder, in combination with the ledge *Z'* having a recess *Z* arranged to be depressed by the act of cocking the gun, substantially as described.

In witness whereof I have hereunto set my hand and seal.

ALFRED SWINGLE. [L. S.]

Witnesses:

W. F. BINGHAM,
J. L. BOONE.