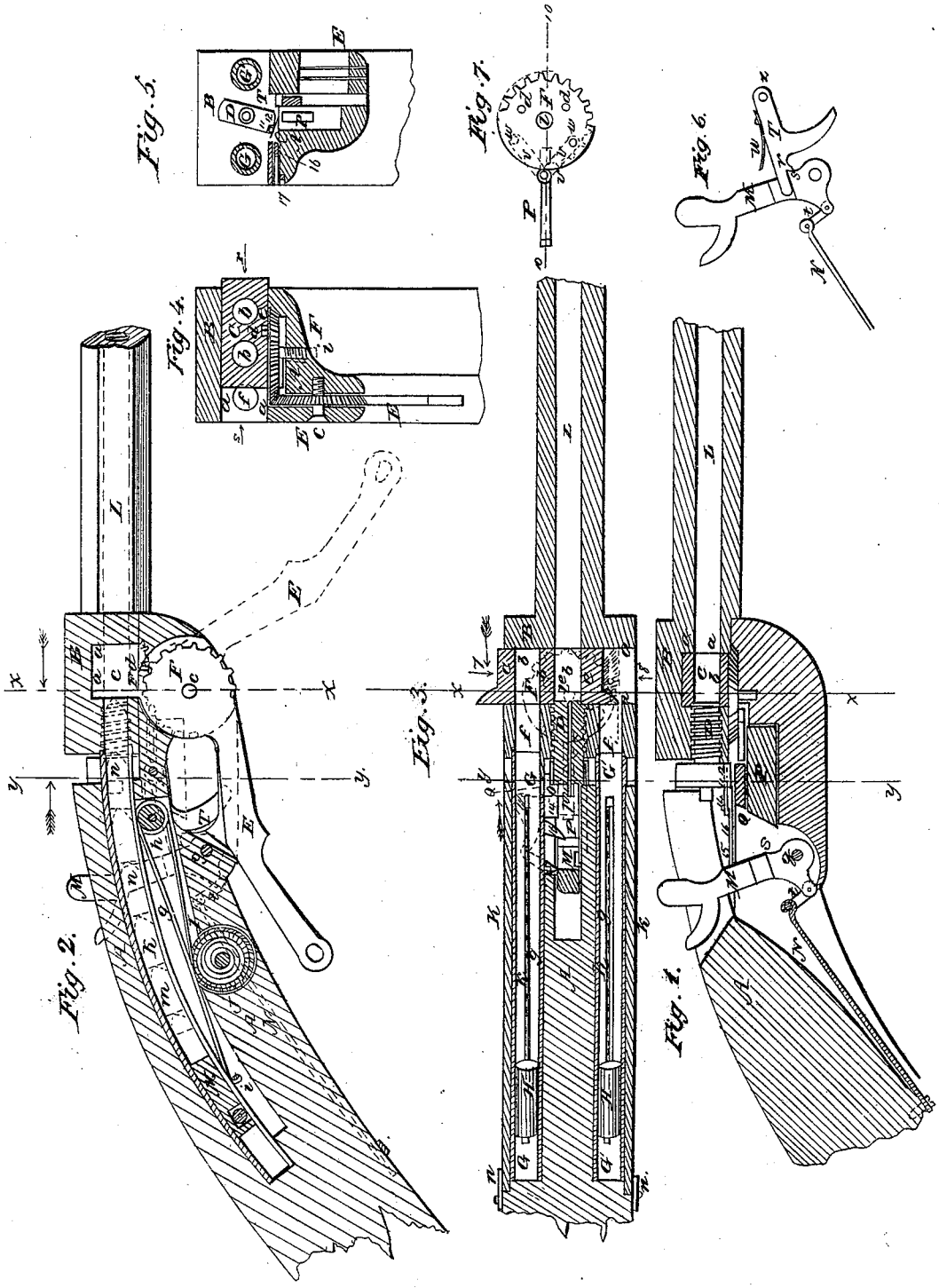
C. C. TERREL.

Magazine Gun.

No. 19,387. Patented Feb. 16, 1858.



UNITED STATES PATENT OFFICE.

CHAS. C. TERREL, OF SHULLSBURG, WISCONSIN.

IMPROVEMENT IN REPEATING FIRE-ARMS.

Specification forming part of Letters Patent No. **19,387**, dated February 16, 1858.

To all whom it may concern:

Be it known that I, CHARLES C. TERREL, of Shullsburg, in the county of Lafayette and State of Wisconsin, have invented certain new and useful Improvements in Repeating Fire-Arms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a longitudinal central section of part of the stock, the breech, and barrel of a gun constructed according to my invention. Fig. 2 is a longitudinal section taken through one of the magazines. Fig. 3 is a horizontal section of the same. Fig. 4 is a transverse section in the plane indicated by the line *x x* of Figs. 1, 2, and 3, as seen looking in the direction of the arrow pointing to that line. Fig. 5 is also a transverse section in the plane indicated by the line *y y* of Figs. 1, 2, and 3, as seen looking in the direction of the arrow pointing to that line. Fig. 6 is a side view of the trigger and hammer detached from the gun. Fig. 7 is a top view of part of the contrivance for cocking the hammer detached from the gun.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists, first, in a certain construction of breech-loading fire-arms to enable them to be loaded with great facility and dispatch from a magazine or magazines in the stock.

It consists, secondly, in certain means of operating what I term the "double sliding charge-holder," (which in part forms two chambers,) and of cocking the hammer, which admits of a very quick repetition of the fire; and it consists, thirdly, in an improved mode of combining the hammer and trigger, whereby the lock is simplified, the hammer is enabled to be let off with a very light pull on the trigger, and yet is held very secure till the trigger is pulled.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the stock of the gun, having bolted securely to it a strong frame, B, of steel, malleable iron, or other metal, into which the barrel L is screwed or otherwise secured, said frame having a passage, *a a*, cut transversely through it in a direction exactly at right angles to the bore of the barrel, for the purpose of receiving what I call the "double sliding charge-holder," which consists of a block of steel, C, containing two truly-bored openings, *b b'*, side by side, either of which openings is capable of being brought in line with the barrel by sliding the block in the frame B, and, when brought in line with the barrel and closed at the rear by the valve-like front end of a screw, D, which works through the rear portion of the frame B, exactly opposite the barrel, either of said holes combines with the said screw D to constitute a chamber to the barrel, said screw constituting the breech, and being intended to have a needle working through it to perforate a percussion priming in the rear of the cartridges, or being provided with a vent and receiving an ordinary percussion-cap or a ribbon priming.

The front side of the double sliding charge-holder C is faced up flat and ground to a perfectly tight joint with the front side of the passage *a a* in the frame B, so that when the breech-screw D forces up the double sliding charge-holder C against the front of the slot there may be no windage between the chamber and barrel of the gun.

The sliding motion of the charge-holder C is produced by means of a lever, E, working on a fixed pin or arbor, *c*, inserted transversely through the stock, said lever having attached to it a bevel-gear or bevel toothed sector, E', gearing with bevel-teeth on a wheel, F, which works close under the sliding charge-holder on a stationary upright pin, *l*, which carries on its upper side an eccentric pin, *d*, which enters a slot, *e*, in the bottom of the sliding charge-holder. By moving lever E from the position shown in black to the position shown in red outline in Fig. 2 the sliding charge-holder is caused to move in the direction of the arrow 7, (shown in Figs. 3 and 4,) to remove the chamber *b'* out of the way of the barrel and the chamber *b* to a position in line with the barrel; and by moving the lever back again the sliding charge-holder is caused to move in the direction of the arrow 8 and carry the chamber *b* away from and the chamber *b'* into a position in line with the barrel.

G G' are two magazines, from which cartridges *m m* are supplied to the chambers *b*

and b' when they are moved away from the barrel, the magazine G supplying the chamber b, and that G′ supplying the chamber b'. These chambers consist each of a tube of a proper size for the cartridges to move easily through one after the other; said tubes extending from the back of the frame B nearly to the butt of the stock, and being arranged with their centers at a distance apart equal to twice the distance between the centers of the chambers b b', so that the above-described movement of the sliding charge-holder to bring one chamber opposite the barrel ready for discharge will bring the other chamber opposite to its respective magazine to receive a new cartridge. Openings ff' are made in the back part of the frame B, to form passages from the magazines to the chambers; but each of these openings is closed in turn, as will be seen on reference to f' in Fig. 3, by the sliding charge-holder as it carries away to the barrel in one chamber the cartridge it has received and takes the other chamber opposite the other magazine. The magazines are each fitted with a follower, H, which is impelled forward by a spring whenever a discharged chamber is brought opposite its respective magazine, thus causing all the cartridges to be moved forward a distance equal to the length of one of them, which movement brings the foremost cartridge into the magazine; but this spring, instead of being of spiral form and arranged within the magazine itself behind the cartridges, as is usually the case in gun-magazines, (in which case the spring, being necessarily of very considerable length, occupies much of the space that might be occupied by cartridges, and thus reduces the capacity of the magazine,) is made in the form of a clock or watch spring, as shown in Fig. 2, where I is the spring, inclosed in a barrel, J, to which the follower H is connected by a cord or chain, g, passing round a pulley, h, the said cord or chain being attached to a pin, i, which is secured in the follower and works through a long slot, k, in the under side of the magazine, and being wound up by the said spring-barrel J, and thereby caused to draw forward the follower to expel the cartridges from the magazine. Each follower of course requires a separate spring, cord, or chain and pulley, and these are all arranged in cavities cut in the sides of the stock. The magazines and their spring-barrels and pulleys are all attached to two side plates, K, that are secured to the sides of the stock A by buttons n n, or other contrivances which admit of their ready removal with the magazines for the purpose of filling the said magazines with cartridges. These magazines are easily detached when empty to give place to replenished ones.

The above-described movement of the lever E, at the same time that it gives to the sliding charge-holder the necessary movement to receive the charges from the magazines into its chambers and convey them to the barrel, effects the cocking of the hammer and the movement of the breech-screw D, that is necessary to effect the closing of the chambers and the tightening up of the joint between the chamber and the barrel. It will be necessary to explain how the cocking of the hammer is effected before explaining the manner of operating the breech-screw, as the latter derives motion from the former.

M is the hammer, working in a slot in the stock, in rear of the breech-screw, on a pin, q, that is inserted transversely through the stock. N is the mainspring, connected with the hammer-butt by a stirrup, t.

T is the trigger, working on a pin, z, and formed with a rigid claw, r, which constitutes the sear and enters into a notch, s, in the hammer-butt when the hammer is cocked. This sear is thrown up out of the notch s by pulling the trigger, and caused to liberate the hammer. A cavity is formed in the side of the hammer above the notch s, in order that the hammer may pass the sear when the latter is raised out of the notch. This mode of combining the hammer with the trigger without a detached sear enables the trigger to be set to let off the hammer with as light a touch as a hair-trigger, and yet holds the hammer cocked as securely as the ordinary trigger and sear; for the sear r may be arranged at so great a distance from the center of motion of the hammer that the mainspring will produce very little pressure on it, and the notch n may be made very shallow, and the trigger-spring u (which is also the sear-spring, as it holds the sear down into the notch s) be so strong that it will hold the hammer very secure, and yet be caused to liberate it by a very slight pull and very little movement.

P is a sliding bolt, working through a guide in the stock parallel, or nearly so, with the bore of the gun, between the front of the hammer and the wheel F. v is a connecting-link, connecting the said bolt with a wrist-pin, w, attached to the under side of the wheel F. This wrist-pin w is so arranged that by the movement that is given to the wheel F by the lever E to operate the double sliding charge-holder C the said wrist-pin is made to pass an equal distance in opposite directions from a line drawn through the sliding bolt P and the center l of the wheel F, as indicated in Fig. 7, where 10 10 represent such a line, and the wrist-pin is shown at one extremity of its movement in black outline and at the other end in red outline. This arrangement of the wrist-pin causes it to move back the sliding bolt P against the hammer to drive back the hammer till it is cocked, and draw the said bolt forward again out of the way of the hammer every time the lever E is moved from the position shown in black to that shown in red in Fig. 2, and repeat the movement when the lever is returned to the position shown in black.

Q is a short slide, working within a guide in the stock parallel with and a little above the sliding bolt P, and carrying a finger, 11,

which works in a spiral groove, 12, in the head 13 of the breech-screw D, for the purpose of drawing back the breech-screw to allow the movements of the double sliding charge-holder and screwing it up again, that its valve-like end may close the rear of either chamber *b* or *b'* that is presented opposite to it, and that there may be no windage between the chamber and barrel. This slide Q is connected by a pin, 14, with a fork, 15 16, which swings on a fixed pin, 17. The hammer, as it is being moved back to cock it, strikes the prong 15 of the fork, and gives the fork such a movement as to draw back the slide Q, and whose finger 11, working in the groove 12 in the head of the breech-screw, is thus caused to turn back the said breech-screw as far as necessary. In so doing the hammer knocks the prong 15 so far aside that it can pass it when it is let off to effect the discharge of the piece, but brings the prong 16 to such a position that it will strike the said prong when it is let off, and thus give the fork such a movement as to drive forward the slide Q and cause its finger to move up the breech-screw again.

Having described the construction of my gun and the individual operations of its parts, I will explain briefly the operation of firing and repeating. The gun is grasped firmly in the right hand at such part of the stock that the right fore-finger is capable of reaching the trigger T, which is ensconced within a recess U, (see Fig. 5,) in the right side of the stock, and the lever E is taken in the left hand in such manner that, while holding the lever close to the gun, that hand will assist in supporting the gun. To prepare for firing, the lever is moved to the position shown in red outline in Fig. 2, by which means the breech-screw is moved back and the sliding charge-holder is moved in the direction of the arrow 7, and the chamber *b*, having received a cartridge from the magazine F, is moved into line with the barrel D and breech-screw. The hammer is cocked by the same movement, and on pulling the trigger the hammer, in coming forward to explode the cartridge, moves up the breech-pin, all of which movements have been fully and separately described. Instantaneously after the discharge the lever may be brought back again to the position shown in black outline, and this movement of the lever draws back the breech-screw and causes the sliding charge-holder to move in the direction of the arrow 8, and thus causes the chamber *b'*, which has now received a cartridge from the magazine G', to be brought into line with the barrel and breech-screw. This movement of the lever E also, like the movement in the other direction, cocks the hammer, and on pulling the trigger after the said movement of the said lever has been completed, the breech-screw is moved up by the hammer and the cartridge in the chamber exploded, as before. In the above manner the fire may be repeated as quickly as the person using the gun can effect the movements of the lever E with one hand and the trigger with the other, two fires being obtained with every movement of the lever back and forth, or one for every movement thereof in either direction.

I do not claim the invention of a double-chambered slide when each chamber is furnished with a solid or permanent breech; but

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The employment of a double sliding charge-holder, C, having openings *b b'* right through it, in combination with a breech-screw D, arranged opposite the bore of the barrel, so that the said breech-screw makes a complete chamber of either opening *b* or *b'* which is in line with the barrel, and at the same time makes a tight joint between the chamber and barrel, while the other opening is in condition to receive a cartridge through its rear from a magazine in the stock of the gun, and easily detached.

2. In combination with the use of two magazines, arranged as described, I claim combining the double sliding charge-holder C and the hammer with the lever E under the stock by means of the bevel-gearing E' F and the eccentric-pin *d* and wrist-pin *w*, substantially as described, so that by moving the lever in either direction the charge-holder has imparted to it the necessary movement to receive a new cartridge from one of the magazines and present another cartridge in line with the barrel, and the hammer is cocked, thus enabling the gun to be fired twice with one movement of the lever back and forth.

3. Combining the hammer with the breech-screw so that the cocking and letting off of the former will draw back and drive up the latter by means of the fork 15 16, the slide Q, with its finger 11, and the spiral groove 12 in the head of the breech-screw, the whole operating substantially as herein described.

CHAS. C. TERREL.

Witnesses:

E. C. KIMBALL,

WM. BALDWIN.