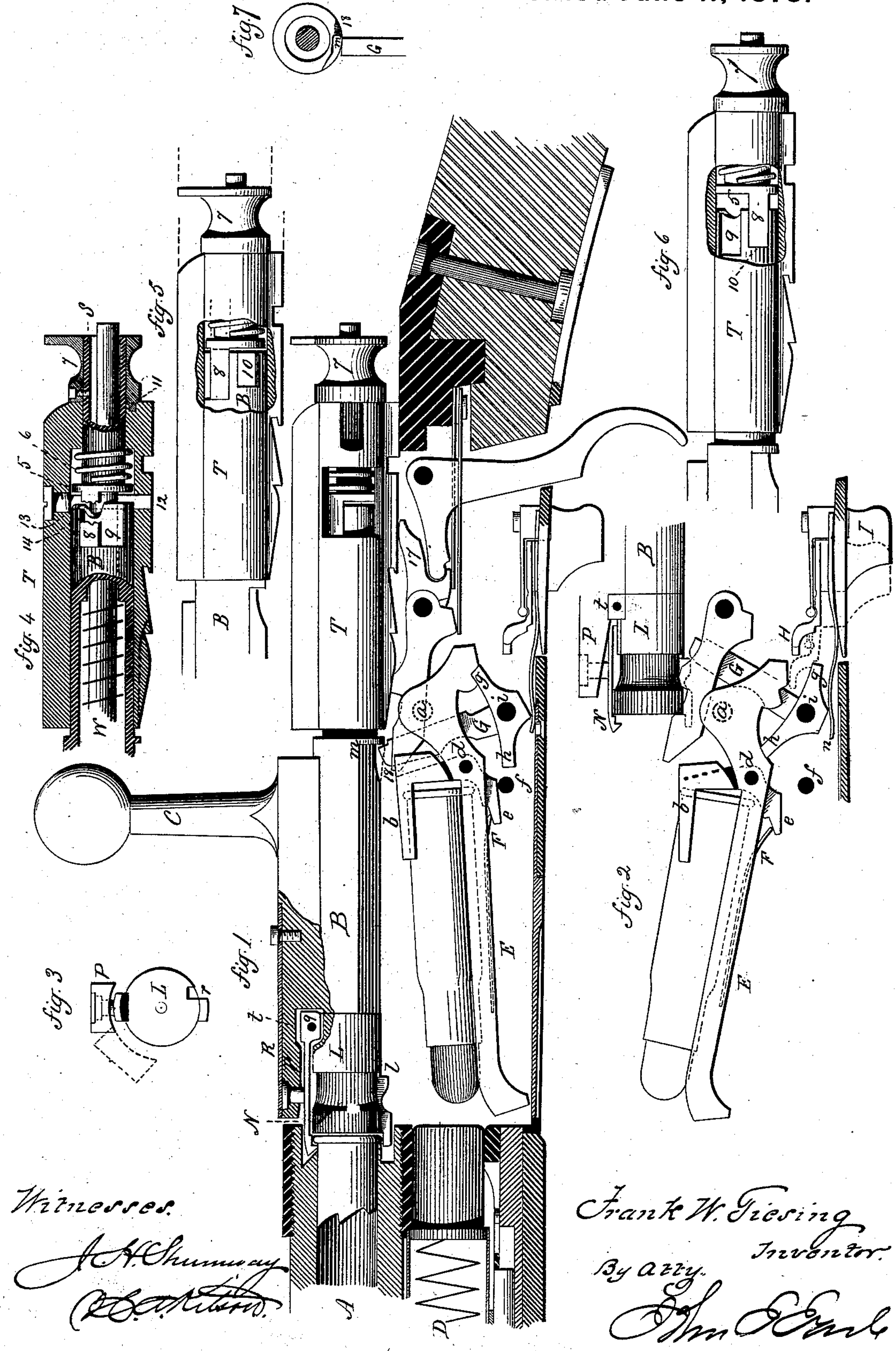
F. W. TIESING.
Magazine Fire-Arm.

No. 204,863. Patented June 11, 1878.



Witnesses.

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IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. **204,863,** dated June 11, 1878; application filed May 13, 1878.

To all whom it may concern:

Be it known that I, FRANK W. TIESING, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Magazine Fire-Arms; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, sectional side view, showing the breech closed and carrier down; Fig. 2, the same parts, breech open and carrier raised; Figs. 3, 4, 5, 6, and 7, detached views.

This invention relates to an improvement in that class of magazine fire-arms in which the magazine is arranged beneath the barrel, and in which the breech-piece is arranged to move to and from the barrel in longitudinal line therewith; and it consists in the construction and combination of parts, as hereinafter described, and more particularly recited in the claims.

A represents the barrel; B, the sliding breech piece or bolt, operated by the handle C, and with a magazine, D, beneath the barrel, in substantially the usual manner for this class of arms, and so well known as not to require particular description in this specification.

In the frame beneath the breech-piece the carrier E is hung upon a pivot, *a*, and so as to move up and down within the frame, as from the position in Fig. 1 to that seen in Fig. 2. In its down position, as seen in Fig. 1, it is in line with the magazine, and so that the cartridge from the magazine will freely pass onto the carrier. When the bolt is thrown back, as in Fig. 2, the carrier is raised, bringing the point of the cartridge in line with the barrel and the head of the cartridge forward of the breech-piece, so that when the breech-piece is again moved forward it will force the cartridge from the carrier and into the chamber in the barrel, and in substantially the usual manner for this class of arms.

In order to hold the cartridge firmly on the carrier a pair of fingers, *b*, is hung upon a pivot, *d*, in the carrier, and so that the two fingers will lie one on the top of the cartridge at each side of the center. From these fingers an extension, *e*, is made below the carrier, and so that when the carrier is in its lowest position this extension will rest upon the bearing *f*, causing the fingers to be turned upward, and so as to leave sufficient space for the rear end of the cartridge to pass between them and the carrier, as seen in Fig. 1. But so soon as the carrier commences to rise the extension *e* leaves the bearing *f;* then a spring, F, on the carrier turns the fingers downward, so as to clamp the cartridge upon the carrier, as seen in Fig. 2, and so as to hold it there until it is removed by the advancing breech-piece.

To operate the carrier, and at the same time hold it in either of its two positions, a rocking lever, consisting of the arm G and two transverse arms, *g h*, is hung upon a pivot, *i*. The arm G extends upward into line with the breech-piece, and so that the projection *l* at the forward end of the breech-piece will strike the upper end of the arm G as the breech-piece approaches its extreme rear movement. Then, completing the movement of the breech-piece, the arm G will be turned, bringing the arm *h* against the under side of the carrier, causing the carrier to rise and the arm *h* to take a bearing on the carrier, as seen in Fig. 2, so as to support the carrier in its elevated position, and hold it there until the breech-piece is again moved forward, when a similar projection, *m*, at the rear of the breech-piece will strike the lever G and return it to the position in Fig. 1, the arm *g* acting upon the carrier to force it downward and fall into a notch at the rear end of the carrier, so as to hold the carrier in its lowest position, as seen in Fig. 1. Thus the carrier is positively raised and lowered and locked in its two positions.

In order to convert the arm to a breech-loader, and reserve, if necessary, the cartridge in the magazine—that is to say, so that the arm may be used as a breech-loader—the carrier-block is locked in its up position by a slide, H, moved by a finger-piece, I, below, is forced forward beneath the rear end of the carrier, and over the arm *g* of the lever G, which turns the lever G so far to the rear as to permit the projection *m* on the breech-piece

to pass over it when next it is closed, and leave the carrier in its elevated position. A spring, *n*, is arranged to operate upon the lever G, tending to hold it in either the forward or rear position, and also to throw it into line for engagement with the breech-piece, when the slide H is withdrawn.

The forward end L of the breech-piece is swiveled to the bolt B, so that the bolt may turn without turning the part L, but yet both move back and forward together. The object of this is, that the forward end of the breech-piece may not of necessity revolve upon the head of the cartridge in locking and unlocking the breech, and so that the forward end of the breech, so far as the extractor and cartridge are concerned, may operate the same as a bolt moved by the guard-lever. This part L is provided with the usual stud *r*, to pass below the flange of the cartridge, and with an extracting hook or latch, N, hinged thereon, which, as the breech-piece is moved forward, will pass over and engage with the flange of the cartridge, as seen in Fig. 1. From the bolt B an arm, P, extends forward over the part L, and on this a spring, R, is arranged to bear upon the extracting-hook when the bolt is in the unlocked or movable condition; but when the bolt is turned into the locked position, as seen in broken lines, Fig. 3, the spring is turned from the extractor. The extension P has a notch, *t*, on its under side, which will engage with the projection on the part L, to which the extracting-hook is hinged, as seen in Fig. 2, and so that the piece L will be moved back and forth with the bolt, the piece L being prevented from turning by any convenient connection with the firing-pin.

It is many times desirable to lock the breech in its closed condition, so as to prevent its being opened accidentally. For this purpose a sleeve, S, is arranged in the rear end of the hammer T, around the firing-pin, as seen in Fig. 4, with a collar, 5, on its forward end, and a spring, 6, bearing upon said collar, tending to force it forward. On the sleeve S, at the rear end of the hammer, a head, 7, is secured, by which the sleeve may be drawn outward or rotated. From the collar 5 an arm, 8, extends forward into a notch, 9, on the surface of the bolt B. This notch is of sufficient circumferential width to allow the breech-piece B to be turned, as for the purpose of locking and unlocking, as seen in Fig. 4, Fig. 4 showing it in the unlocked or moving position; Fig. 5 showing it in the closed or locked position. When in the closed position, as in Fig. 5, it is desired to lock the breech-piece in that position, the operator takes hold of the head 7, draws it outward, and draws the hammer with it, as seen in broken lines, Fig. 5, until the finger 8 passes off from the bolt, then turns the sleeve S until the finger 8 comes in line with a second notch, 10, on the bolt; then, left free, the finger 8 passes into the notch 10, as seen in Fig. 6, which is only the width of the finger, and at the same time a stud, 11, on the head passes into a corresponding cavity in the hammer, as seen in Fig. 4. This locks the breech-piece in its closed condition.

It will be understood that the stud 11 also enters a corresponding notch when in the first-described or working position.

To draw back the firing-pin W before the breech is opened, a pin, 12, extends through the hammer and firing-pin in rear of the breech-piece B, which is within the hammer and around the firing-pin, as seen in Fig. 4; and in the end of the firing-pin are two notches, the one, 13, of less depth than the other, 14. The one, 14, comes in front of the pin 12 when the breech-piece is closed and in proper condition for firing; and the depth of the notch is sufficient to allow the pin 12 to enter it, and the firing-pin to strike the cartridge; but when the breech-piece is turned, as for opening, the inclined side of the notch 14 forces back the firing-pin and hammer until the breech-piece has been turned up to the opening position; then the pin falls into the other notch, 13, which is of less depth, and so as to prevent the firing-pin from striking the cartridge. If, in this condition, the hammer be cocked and discharged, the force can not reach the primer, it being arrested by the rear end of the breech piece or bolt.

When the breech-piece is moved forward after having been drawn back, the shoulder *m*, which operates the lever G, would catch upon the sear. To prevent this the lever G is arranged at one side of the center, as seen in Fig. 7, and the shoulder *m* also made at one side of the center, and on the opposite side of the center the shoulder is filled, as indicated by the line 18, Fig. 1, and also seen in Fig. 7, inclining from the edge of the shoulder to the body of the bolt, and this incline will ride over the sear 17 when the breech-piece is moved forward, and force the sear downward out of the way of the shoulder *m*.

I do not wish to be understood as broadly claiming swiveling the forward end of the bolt so that it will move longitudinally with the bolt, but not to rotate, as such, I am aware, is not new.

I claim—

1. In a magazine fire-arm, the combination of the carrier E, hinged at the rear, and so as to be turned up and down for the transfer of the cartridge, the fingers *b*, hinged in said carrier, a spring, F, on said carrier to close the fingers on the cartridge, and a stationary bearing, *f*, on the frame to open the fingers as the carrier descends, substantially as described.

2. In a magazine fire-arm, the combination of the carrier E, hinged at the rear, the rocking levers G, hung beneath said carrier, arms *h* and *g* on said lever, and the breech piece or bolt provided with a shoulder near the forward and rear ends to act upon said lever, and, through said arms *h* and *g*, respectively, to raise and lower the carrier and lock it in either its raised or lower position, substantially as described.

3. In a magazine fire-arm, the combination of the carrier E, hinged at the rear, the rocking levers G, *h*, and *g*, hung beneath said carrier, and the breech piece or bolt, provided with a shoulder near the forward and rear ends to act upon said levers, respectively, to raise and lower the carrier, and a slide, H, operating upon said lever to turn it out of line of the rear shoulder on the breech-piece, and lock it with the carrier in the raised position, substantially as described.

4. In a fire-arm, the combination of a barrel open at the breech, a breech piece or bolt moving longitudinally in line with the barrel to open and close the breech, and which is partially rotated to lock or unlock the breech, the head or forward portion of the breech-piece connected to the said bolt, so as to move longitudinally with it, but disconnected from its rotary movement, and an extracting-hook on said head, an arm extending from the rotating part forward over the non-rotating part, and carrying a spring, which is moved onto or away from the extractor by the rotation of the bolt, substantially as described.

5. The combination, in a breech-loading fire-arm, of the bolt B, the hammer T surrounding it, a sleeve, S, in the rear end of the hammer, arranged for both longitudinal and rotary movement independent of said hammer, the said sleeve having a finger, 8, on its forward end, and the bolt B with notches 9 and 10 in its rear end, into either of which the said finger 8 may be turned, one to lock, the other to unlock, the breech, substantially as described.

6. The combination, in a breech-loading fire-arm, of the bolt B, the hammer T surrounding it, the firing-pin W within it, a pin, 12, connecting said firing-pin with the hammer, a notch, 14, in the rear end of the bolt, into which the said pin 12 must pass before the firing-pin can strike the cartridge, substantially as described.

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