

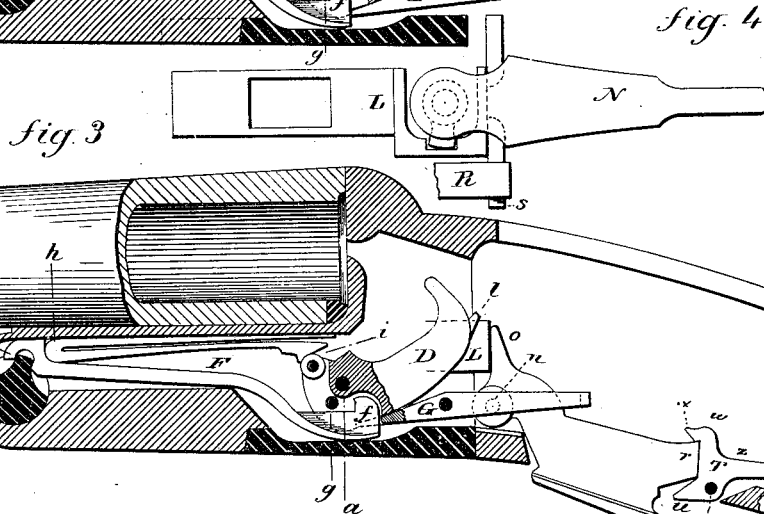
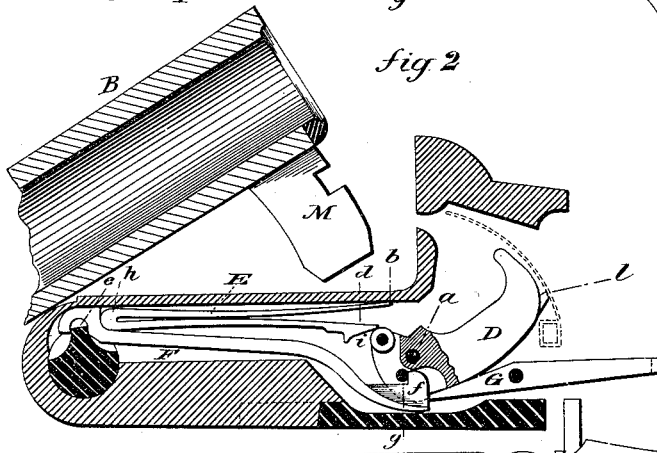
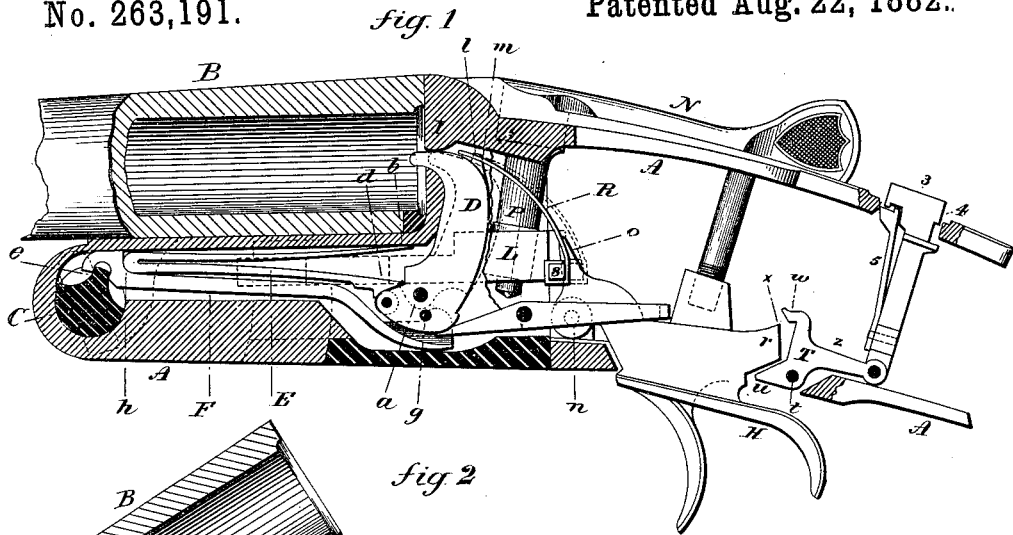
(No Model.)

W. MASON.

BREECH LOADING FIRE ARM.

No. 263,191.

Patented Aug. 22, 1882..



*fig. 4*

Witnesses.  
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# UNITED STATES PATENT OFFICE.

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PATENT FIRE-ARMS MANUFACTURING COMPANY, OF SAME PLACE.

## BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 263,191, dated August 22, 1882.

Application filed March 25, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WM. MASON, of Hartford, in the county of Hartford and State of Connecticut, have invented a new Improvement in Breech-Loading Fire-Arms; and I do hereby declare the following, when taken in connection with 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 a sectional side view, the parts in their normal condition; Fig. 2, the lock mechanism with the barrels opened and the hammer cocked; Fig. 3, the lock mechanism with the barrels closed, the hammer left at full-cock; Fig. 4, a top view of the bolt and its operating-lever.

This invention relates to an improvement in that class of breech-loading fire-arms in which the barrels tilt up at the breech to open the chambers for the insertion or removal of the cartridges, commonly called "breakdown arms," and particularly to that portion of this class of arms in which the hammer is arranged entirely within the receiver and cocked in the act of opening the breech—such as commonly called "concealed hammers"—parts of which are applicable to other classes of arms.

The lock mechanism is an improvement on the device for which Letters Patent were granted to me dated September 20, 1881, No. 247,373.

The object of the invention is to simplify the construction, whereby the breaking down of the barrels will set the hammer at full-cock, compressing the mainspring, partly by the opening of the breech, and completing its application on the return of the barrels, also to retract the hammer after it has imparted its blow by the locking mechanism which secures the barrels in their closed position; and the invention consists in the details of construction, as more fully hereinafter described, and particularly recited in the claims.

A represents the receiver or frame, of substantially the usual construction, with the barrels B arranged in the usual manner and hung upon a rock-shaft, C, so as to engage said shaft in tilting up to open the breech or returning to close the breech, substantially as in

my former patent, and whereby an oscillatory movement is imparted to the rock-shaft C.

D is the hammer, hung upon a pivot, *a*; E, the mainspring, arranged in a recess forward of the hammer, one end, *b*, taking its seat in the receiver, the other end, *d*, bearing on the hammer forward of its pivot.

F is the connecting-link between the rock-shaft and hammer. It is engaged with the rock-shaft above its center, as at *e*, and its rear end is hook-shaped, as at *f*, and stands, when in its normal condition, as seen in Fig. 1, in rear of a stud or pin, *g*, on the hammer, below its pivot. By this connection, when the barrels are turned upward to open the breech the rock-shaft C is also turned from its position as seen in Fig. 1 to that seen in Fig. 2, and because of this partial rotation of the rock-shaft the connection F is drawn forward, and, being engaged with the hammer below its pivot, correspondingly turns the hammer backward to its position of full-cock, where it is caught by the nose of the sear G, as seen in Fig. 2. Then as the barrels are returned to their closed position, as seen in Fig. 3, the connection also returns away from the stud *g* on the hammer, leaving the hammer at full-cock, from which it is released by pulling the trigger H in the usual manner, the shoulder or hooked end *f* of the connection F being at that time so far to the rear as to be out of the way of the hammer.

The doubled or heel end *h* of the mainspring is made fast to the connection F, so as to move back and forth with the connection. In the forward movement the hammer raises the arm *d* of the mainspring, which bears thereon, working upon an inclined surface, *i*, at that end, as from the position in Fig. 1 to that seen in Fig. 2, and passing over this incline the movement imparted to that end of the mainspring is less than the actual movement of the hammer. Then when the barrels are returned, and with them the connection F and the mainspring, the incline *i* rides up upon the bearing on the hammer to the position seen in Fig. 3, thereby completing the compression of the mainspring. Thus the mainspring is partly compressed in the opening of the barrels, the compression completed by the return of the barrels.

In this class of arms the nose of the hammer necessarily strikes forward of the front face of the recoil-plate I, as seen in Fig. 1, and if the hammer remains in that condition the rear end of the barrels cannot be raised to open the breech. Hence before the barrels are raised it is necessary to give to the hammer a retreating movement. To do this I make a connection with the bolt L by which the barrels are locked in their closed position, this bolt being arranged to move longitudinally toward and from the locking-lug M on the under side of the barrel by means of a lever, N, on the upper tang of the frame through a cam-shaft, P, which extends down into engagement with the bolt in substantially the usual manner. To the rear end of this bolt I attach a spring-link, R. This is best done by constructing the bolt with a cross-piece, S, extending to the right and left in rear of each hammer, and to this cross-piece the spring-link is attached, as seen in Fig. 1, and extends up over the hammer. The back of the hammer is constructed with a projecting lug or stud, *l*, and the spring-link R has a corresponding perforation, *m*, which, when the hammer is forward and the bolt in its locked position, as seen in Fig. 1, engages the projection *l* on the hammer. Thus engaged, when the bolt is drawn backward to release the barrels, as seen in broken lines, Fig. 1, the link R will, because of its connection with the hammer, draw it backward to the same extent, as indicated in broken lines, Fig. 1. The rear face of the lug *l* is inclined, so that when the rear end of the barrels is raised, as before described, to draw the hammer backward, the incline on the back of the lug *l* will permit it readily to pass out beneath the spring-link R to its position of full-cock, leaving the link R in its place, as indicated in broken lines, Fig. 2. Then when the barrels are closed and the locking-bolt in its properly-engaged position the spring-link R is also in its most forward position. Then when the hammer is discharged the lug *l* will strike upon the under side of the link R, easily raising the free end of that link until the lug passes within the opening *m* in the link.

While I prefer to make the lug *l* on the hammer and the opening in the link, it will be understood that this order may be reversed.

To make this arm perfectly safe as against accidental firing, I construct one of the triggers, which are hung upon a pivot, *u*, with an arm, *o*, above its pivot and in rear of the bolt L, so that when the bolt is forward in its locked condition the arm is so far in rear of the bolt as to permit the free play of the triggers; but when the bolt is thrown backward, as seen in Fig. 3, it strikes the arm *o* of the triggers and turns the rear end, *r*, downward, as also seen in Fig. 3. In rear of the arm *r* of the triggers is a lever, T, hung upon a pivot, *t*, with an arm, *u*, forward of its pivot, lying beneath the arm *r* of the trigger, and above the pivot *t* of the lever T is another arm, *w*,

constructed with a shoulder, *x*. A third arm, *z*, of the lever T extends rearward and is hung to a finger-piece, 2, which extends up through the rear tang of the frame, where it presents a head, 3. When the bolt is thrown back, as before described, and turns the triggers, as seen in Fig. 3, the arm *r* of the trigger strikes the arm *u* of the lever T and turns the arm *w* of that lever forward, bringing the shoulder *x* over the arm *r*, at the same time the arm *z* of that lever throws the finger-piece 2 upward, as seen in Fig. 3—that is to say, from the position seen in Fig. 1 to that seen in Fig. 3. As the finger-piece 3 rises a shoulder, 4, on the under side of the head is forced by a spring, 5, over onto the upper surface of the tang, forming a latch, which will prevent the return of the lever T. Hence the trigger cannot be pulled until the lever T is turned to take the shoulder *x* from over the arm *r*, and this cannot be done until the bolt is turned, because the arm *u* of the lever T below will strike the under side of the arm *r*; but when the bolt is in its completely-locked position, then the operator may force forward the head 3 of the finger-piece 2 until the shoulder 4 will escape from the tang, then press the head down into the tang, as seen in Fig. 1, which will turn the lever T and take the shoulder *x* out of the way of the trigger and leave it free to be pulled. Thus the finger-piece becomes an indicator, to show whether or not the arm is in proper condition for firing—that is to say, whether the bolt is properly engaged with the barrels, and also whether the triggers are locked or unlocked. By this arrangement of the safety-catch the sportsman may at any time set his triggers at safety-catch without opening his barrels—that is to say, by throwing the trigger forward, as seen in Fig. 3, it will turn the lever T on its pivot and bring the shoulder *x* over the arm *r* of the trigger and throw up the finger-piece, the same as if done by the operation of the bolt, and this may be without any necessary connection between the bolt and trigger.

While I prefer the mechanism shown for operating the bolt, it will be understood that any of the known mechanisms for so doing may be employed, it only being essential that there shall be some mechanism arranged to impart longitudinal movement to the bolt to disengage the barrels.

I also prefer the spring-link R as a connection between the bolt and the hammer, whereby the longitudinal movement imparted to the bolt in releasing the barrels may be communicated to the hammer, and thereby impart a corresponding rear movement to the hammer; but other connections for so doing may be employed. I therefore do not wish to limit my invention to the precise construction and arrangement of parts whereby the objects of this invention are accomplished.

I claim—

1. In fire-arms in which the breech is opened

by the barrel tilting up at the breech, the combination therewith of the transverse rock-shaft C, arranged at the axis upon which the barrel turns, and with which the barrels engage in opening and closing to impart a corresponding oscillation to the said shaft, the hammer D, the connection F between said shaft above its pivot and the hammer below its pivot, the mainspring, its doubled end bearing on said connection forward of the hammer, one end of said mainspring taking its bearing on the frame, the other end, *d*, constructed with an incline, *i*, upon its under side, and arranged to bear upon the hammer forward of its pivot, substantially as described.

2. In fire-arms in which the breech is opened by the barrels tilting up at the breech, the combination therewith of the longitudinally-movable locking-bolt L<sub>1</sub> and a cam-lever arranged to impart to said bolt the longitudinal movement to permit the opening and closing of the

barrels, a link, R, in connection with said bolt and constructed for engagement with the hammer, whereby the rear movement of the bolt imparts a corresponding rear movement to the hammer, substantially as described.

3. In fire-arms in which the breech is opened by the barrel tilting up at the breech, the combination therewith of the bolt to lock the barrels in their closed position, and mechanism, substantially such as described, to impart to said bolt longitudinal movement, the trigger constructed with an arm, *o*, extending above its pivot and in rear of the bolt, and with an arm, *r*, extending to the rear, with the three-armed lever T and finger-piece 2 hung thereto, extending up through the tang of the frame, substantially as and for the purpose described.

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Witnesses:

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