

(No Model.)

3 Sheets—Sheet 1.

W. MASON.
MAGAZINE FIREARM.

No. 551,393.

Patented Dec. 17, 1895.

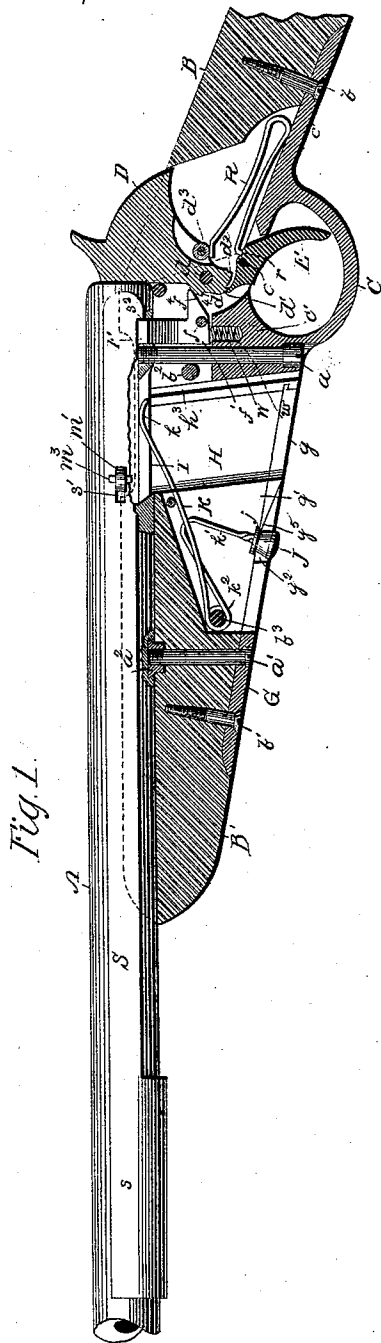


Fig. 1.

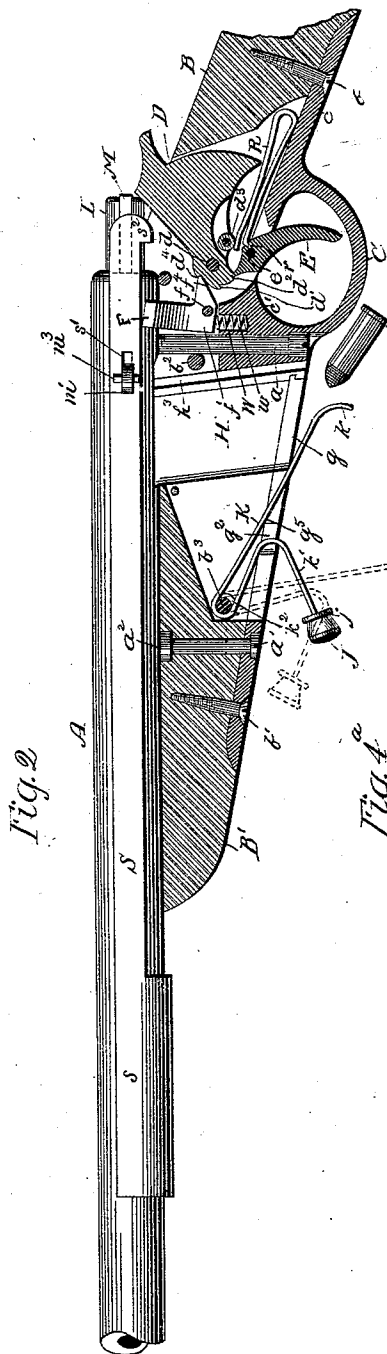


Fig. 2.

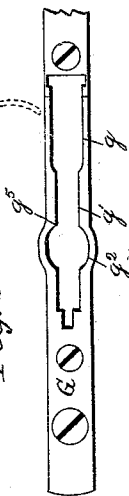


Fig. 4.

Witnesses:
Chas B. Shumway
Mr. Lloyd Kitchel

Inventor
William Mason
by Robinson & Fisher
his attorneys.

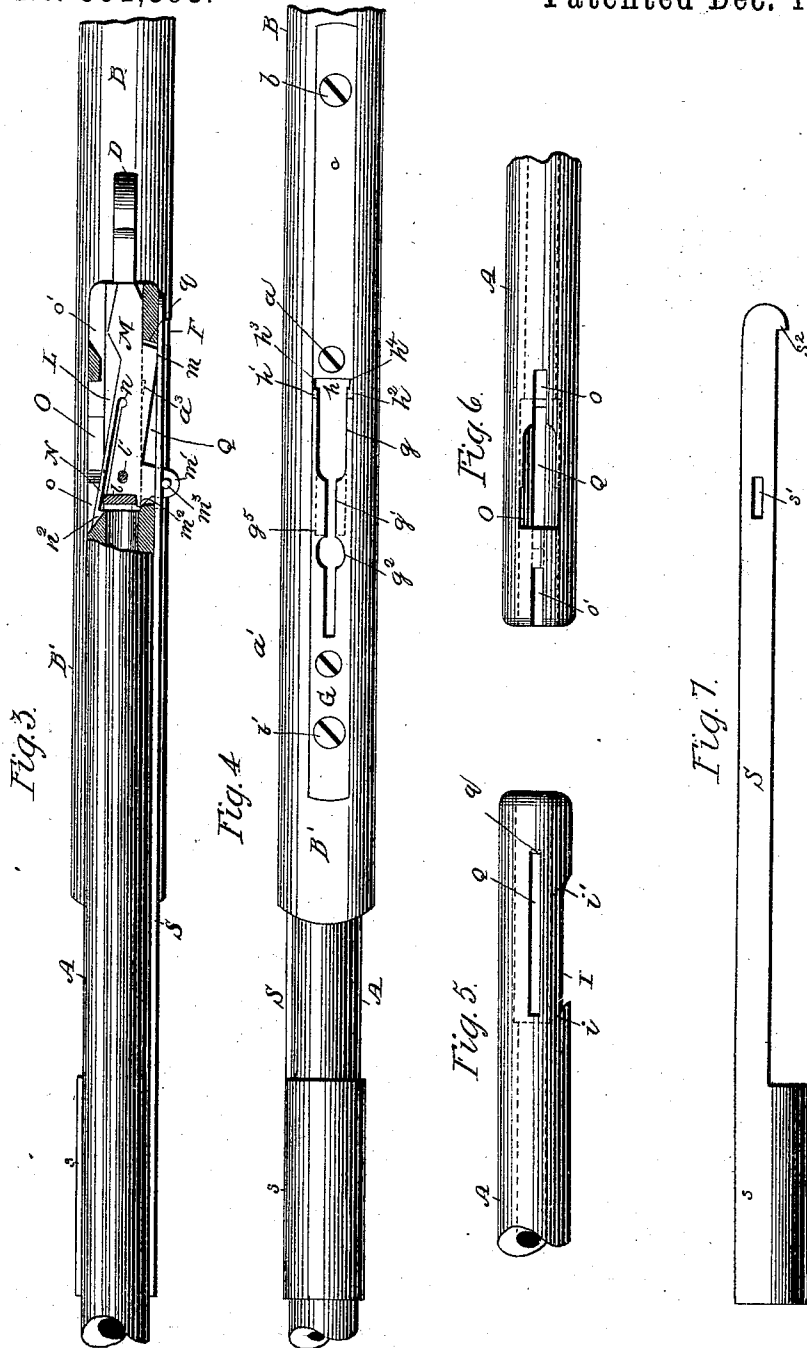
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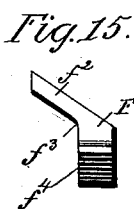
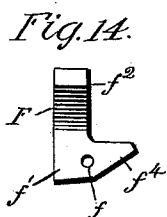
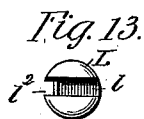
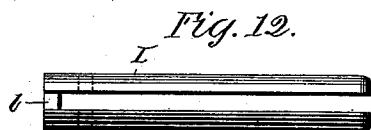
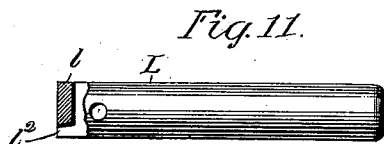
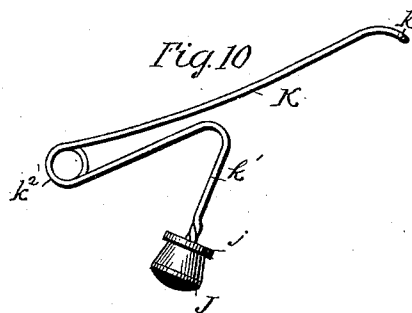
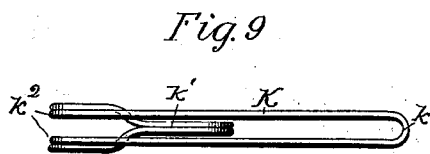
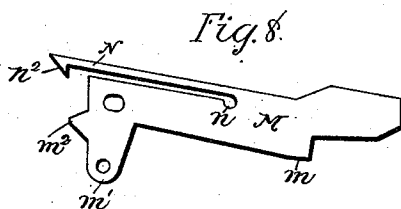
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Wm. Lloyd Kitchel.

Inventor
William Mason
by Robinson Hish
his attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM MASON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE
WINCHESTER REPEATING ARMS COMPANY, OF SAME PLACE.

MAGAZINE-FIREARM.

SPECIFICATION forming part of Letters Patent No. 551,393, dated December 17, 1895.

Application filed February 28, 1895. Serial No. 540,118. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MASON, a citizen of the United States, and a resident of the city of New Haven, county of New Haven, State of Connecticut, have invented a new and useful Improvement in Breech-Loading Firearms, which is fully set forth in the following specification, taken in connection with the drawings which form part thereof, and in which the same letters of reference represent like parts in all figures, and in which—

Figure 1 is a view of a gun embodying my invention, partly in side elevation, partly in vertical section, showing the parts in their normal position in the gun. Fig. 2 is a similar view of the gun with the carrier mechanism drawn downward for charging the magazine and the breech-bolt, hammer, and associated parts withdrawn for loading. Fig. 3 is a plan view thereof. Fig. 4 is a bottom view of the guard-plate and fore part of stock. Fig. 4^a is a view of a modification of the bottom of the magazine. Fig. 5 is a side elevation of the butt-end of the barrel of the gun. Fig. 6 is an elevation from the opposite side of the same part; Figs. 7 and 8, detail views of the action-handle and firing-pin, respectively; Figs. 9 and 10, plan view and side elevation of the carrier-spring, respectively; Figs. 11, 12, and 13, plan view and side and end elevations of the breech-bolt; and Figs. 14 and 15, detail views of safety-catch lever.

This invention relates to repeating breech-loading firearms of the type known as the "box-magazine gun," and has for its object the production of a simple, reliable and effective arm.

The improvements of the invention consist in the employment of the combined carrier and carrier-spring of great simplicity, a firing-pin and extractor combined with the breech-bolt in the barrel of the arm, and an effective and simple safety-catch mechanism, more fully described and claimed hereinafter, together with minor improvements.

In the drawings, A represents the barrel of the gun, B the wooden stock, and C the guard-plate prolonged to form the lower tang *c*. Combined with this guard-plate and formed integral with it is the trigger-plate *c'*, to which are pivoted at *d* the hammer D, at *e* the

trigger E, and at *f* the safety-catch lever F, as more fully described hereinafter. The whole of this metal piece, embracing the guard, lower tang, and part of stock, is hereinafter referred to as the "guard-plate," and is connected to the stock by the screw *b* and horizontal pin *b*² and to the barrel by the screw *a*. The hammer D and trigger E are of no unusual type, the former having the half-cock notch *d'* and the cock-notch *d*², in which the end of the trigger may engage. A main spring R bears on the trigger E at *r* and on the antifriction-roller *l*³ carried by the hammer D.

Below the forward part of the stock B' is a metal strip G, which at the rear end makes a tongue-and-groove joint with the guard-plate *c'*, and is secured to the stock by the screw *b'* and to the barrel by the screw *a'* passing through the stock and engaging in a stud *a*² dovetailed into a transverse slot in the barrel, as shown in Figs. 1 and 2.

In the forward part of the stock B' is a chamber H, forming, with the barrel A, guard-plate C and metal strip G, the magazine for the carrier mechanism and reception of the cartridges.

In the metal strip G, forming the bottom of the magazine H, is the elongated vertical opening *g*, wide enough to admit a cartridge, prolonged at its forward end into a narrow slot *g'*, with the small circular opening *g*². In the portion of the guard-plate C forming the rear of the magazine H is a recess *h*, having two vertical flanges *h'* and *h*², forming grooves *h*³ and *h*⁴, extending from the opening *g* to the barrel A.

The carrier mechanism within the magazine H consists of the double wire K, looped at an end *k* and united at the lower end *k'*, to which lower end is soldered or otherwise secured a button J with the flange or collar *j*. The wire K is coiled at *k*² about a horizontal pin *b*³, and is thereby pivoted to the stock B, and adapted to swing in a vertical plane. Normally the flange *j* of the button J engages with the rear edge *g*⁵ of the circular opening *g*². When the magazine is to be charged with cartridges by pressure, the button J is disengaged from the edge *g*⁵ and passes through the opening *g*², forcing the

looped end *k* of the wire *K* downward toward and through the opening *g*, so that a cartridge may be inserted above it into the magazine *H*. When the magazine is charged, the button *J* is pressed to again engage by the flange *j* on the edge *g*⁵, and the coiled spring exerts a pressure on the cartridges. The looped end of the wire *k*, which forms the carrier of this gun, constantly presses against the cartridges until they are fed successively into the barrel through an opening *I*. (Described hereinafter.) A modification of this carrier mechanism is shown in Fig. 4^a, where the slot *g*¹ is widened sufficiently to permit the carrier to be drawn downward to the position shown in the dotted lines in Fig. 2. By this means the magazine *H* may be charged with several cartridges at a time, instead of singly, as in the original method. The cartridge entered at the opening *g* is held by its flanged head in the grooves *h*³ and *h*⁴, allowing it only vertical movement until it is forced by the pressure of the carrier *K* into the opening *I* of the barrel.

The butt-end of the barrel *A*, above the magazine *H* and extending to the rear end, in its internal diameter is somewhat greater than the bore of the gun, and contains four lateral openings extending longitudinally with it. One of them, *I*, in the under side of the barrel, placed over the magazine *H* for the admission of the cartridges, is of oblong shape, and its ends *i* and *i*¹ are inclined upwardly toward the fore end of the gun. The rear end and adjacent portions of the side of the opening *I* incline sufficiently over the grooves *h*³ and *h*⁴ to detain the head of the cartridge entering from the magazine under the pressure of the carrier *k*, until the fore end of the cartridge is raised to slip into the barrel.

The opening *O* on one side of the barrel, adapted in size and shape for the passage of the cartridge when ejected, is prolonged toward the fore-end of the gun in a narrow slot *o*, the forward end of which is inclined inwardly to the rear of the gun. On the same side and same horizontal plane the narrow slot *o*¹ extends to the butt-end of the barrel, having its fore-end beveled inwardly and forwardly.

The narrow rectangular slot *Q*, formed in the side of the barrel opposite the opening *O*, has its rear end *q* inclined inwardly to the rear to act as a recoil-abutment.

Within the portion of the barrel enlarged internally are the breech-bolt *L*, firing-pin *M*, and extractor *N*. The breech-bolt *L*, of cylindrical form, is divided horizontally into two portions, united at their forward ends by the block *l*. It receives between its two portions the firing-pin *M*, loosely pivoted by the pin *l*¹ mounted in the breech-bolt and extending rearwardly beyond said breech-bolt. A shoulder *m* of the firing-pin is constructed to lock with the recoil-abutment *q* and an extension *m*¹ projects through the slot *Q*. The

extractor *N* is constructed integral with the firing-pin *M* at the point *n* to form a spring-catch extending beyond the breech-bolt *L* in the slot *o*, and notched internally at *n*² to engage with the rim of the cartridge.

The point *m*² of the firing-pin *M* extends forwardly beyond the breech-bolt *L*, through the small opening *l*² in the end of said breech-bolt, and is adapted to impinge upon the rim of the cartridge when the rear end of the firing-pin is struck by the hammer *D*.

The firing-pin and breech-bolt herein described are constructed for rim-fire, but by slight alteration may be adapted for central fire.

Parallel to the barrel and on the side of the slot *Q* extends the action-handle *S*—a narrow strip of metal—its forward end *s* constructed to partially surround the barrel, the whole capable of longitudinal movement. The rectangular slot *s*¹, located opposite the slot *Q*, receives the extension *m*¹ of the firing-pin, which projects through the slot *Q* and is bound to said action-handle by the pin *m*³, as shown in Figs. 1 and 3.

In the extraction of a spent cartridge, the action-handle being drawn rearward, by means of the extension *m*¹ forces the firing-pin rearward with it. The loose bearing of the firing-pin *M* on the pin *l*¹ allows sufficient play for the release of the shoulder *m* from the recoil-abutment *q* before the rearward action is transmitted to the breech-bolt *L*. Continued rearward movement of the action-handle withdraws the breech-bolt, firing-pin, and extractor connected thereto, (which engages the rim of the cartridge,) thereby pulling rearward the cartridge until its rim comes in contact with a notch *a*³ (or pin) in the barrel. The spring-catch of the extractor forces the cartridge in contact with the notch *a*³ and draws it about, ejecting it through the opening *O*. The breech-bolt *L* presses against the hammer *D*, forcing it backward until it is fully cocked. While the breech-bolt and appended parts are thus withdrawn, the carrier *k* presses into the barrel a new cartridge, and the forward movement of the action-handle acting on the breech-bolt forces the cartridge into its chamber in the barrel, as shown in Fig. 3.

A feature in this invention is the safety-catch mechanism, to prevent the premature discharge of the gun before the breech-bolt is restored by the action-handle to its normal position in the barrel, and the shoulder *m* engaged with the recoil-abutment *q*. This mechanism consists of a lever *F*, pivoted at *f* in the guard-plate *C*, having the elbow *f*¹, and an arm *f*², forming at *f*³ an angle in a vertical plane at right angles to that of the two arms of the lever. A notch *s*² in the action-handle *S* bears against the arm *f*² of the lever, when said handle is drawn forward, and the parts in the interior of the barrel connected therewith locked with the recoil-abutment. Against the elbow *f*¹ of the le-

ver presses a spring *w* in a recess *W* in the guard-plate *C*. The engagement of the arm *f*² with the action-handle *S* overcomes the tension of the spring *w*, until said arm *f*² is released by the rearward movement of the action-handle, when the spring *w* forces the arm *f*⁴ of the lever to engage with the notch *d*⁴ in the hammer *D*, when said hammer is fully cocked.

10 Until the breech-bolt *L* is withdrawn sufficiently to full-cock the hammer *D* a cartridge cannot be pressed by the carrier *k* into the barrel, and it is apparent that after the hammer has been full-cocked it will be engaged by the lever *F* and prevented from forward movement until the action-handle *S* is again drawn forward, and the breech-bolt *L* by means of the firing-pin *M* locked with the recoil-abutment.

20 The details of construction of this gun may be varied somewhat without departing from the spirit of the invention, and

What I claim is—

1. In a repeating breech loading firearm, the combination of the stock thereof, with a magazine, of a coiled spring pivoted in said magazine to swing in a vertical plane, the upper end of which is looped to form a carrier, the lower secured to a flanged button; and an opening leading into said magazine for the passage through it of the ends of said coiled spring and button, and adapted to engage said flanged button for holding said spring in tension, substantially as described.

2. In a repeating breech loading firearm, the combination with the stock thereof of the barrel having a passage in the under side, a box magazine in the stock communicating with said passage, constructed with an opening in the bottom adapted to receive cartridges, said magazine being so constructed that the cartridges may be fed vertically upward from said bottom opening in said magazine into said under passage in the barrel, and a lateral opening in the barrel formed for the ejection of cartridges, substantially as described.

3. In a breech loading firearm the combination in the barrel thereof, with a cylindrical breech bolt divided horizontally into two parts united at their forward ends, of a combined part comprising the firing pin and extractor between the portions of said breech bolt and pivoted thereto, having a shoulder adapted to lock with a recoil abutment formed in the barrel, substantially as described.

4. In a breech loading firearm, in the barrel thereof, a cylindrical breech bolt capable of longitudinal motion within the barrel, divided horizontally in two portions united at their forward ends, substantially as described.

5. In a breech loading firearm, the combination with the barrel thereof, having a lateral slot, with an action handle capable of longitudinal motion, of a breech bolt within the barrel, and a combined part comprising the firing pin and extractor, pivoted to said breech bolt and connected through said lateral slot to the action handle, said combined part and breech bolt being capable of longitudinal motion and operated by said action handle, substantially as described.

6. In a breech loading firearm, the combination with the barrel, of a guard plate in which are pivoted the hammer and an angle lever, a spring constructed to press against said lever to throw an arm of said lever into engagement with a notch in the hammer when full cocked, a breech bolt and firing pin within the barrel, adapted to lock with a recoil abutment in the barrel when fully closed, and an action handle connected with said firing pin and breech bolt and notched to engage with an arm of said angle lever to overcome the pressure of said spring when the parts within the barrel are locked with said recoil brace, substantially as described.

In witness whereof I have hereunto set my hand this 18th day of February, A. D. 1895.

WILLIAM MASON.

Witnesses:

DANIEL H. VEADER,
WILLIAM S. BALDWIN.