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J. M. & M. S. BROWNING.

MAGAZINE FIRE ARM.

No. 376,576. Patented Jan. 17, 1888

Fig 1

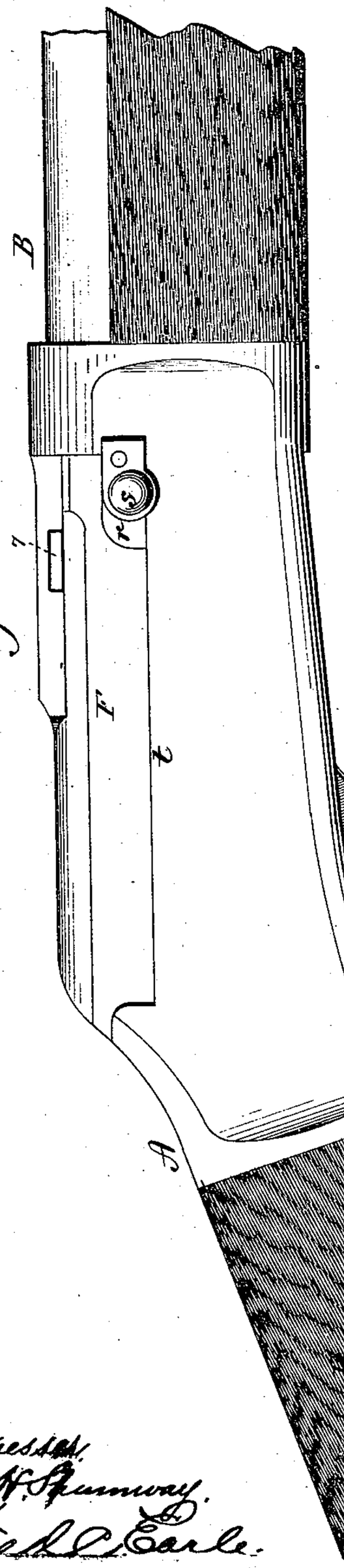

Fig 2

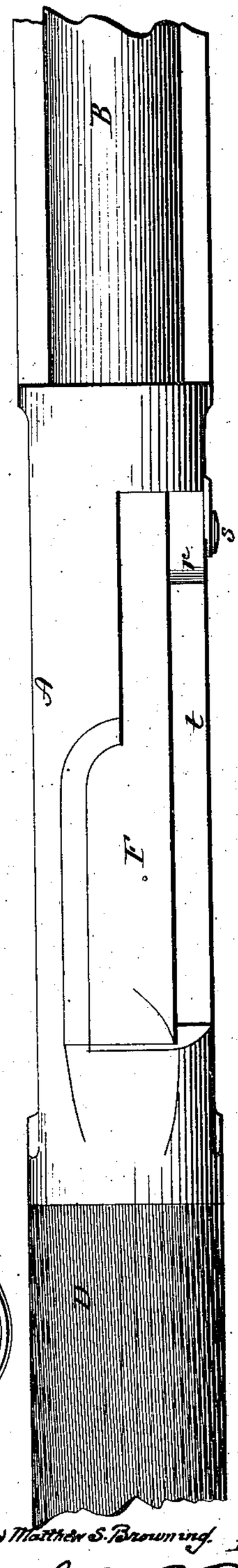

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Fig. 3

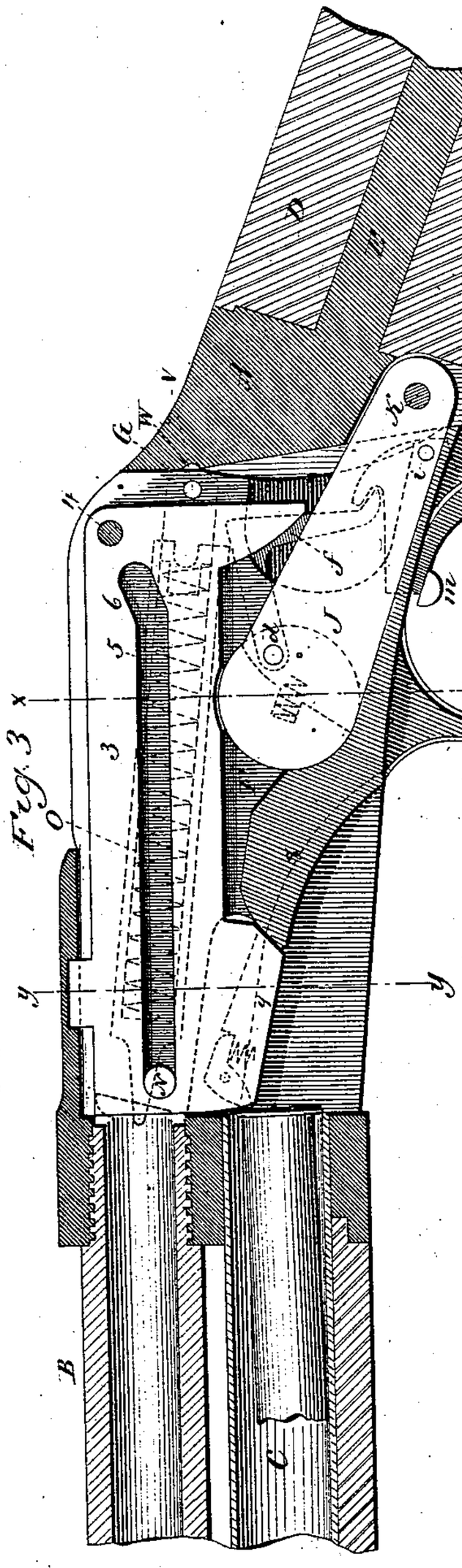
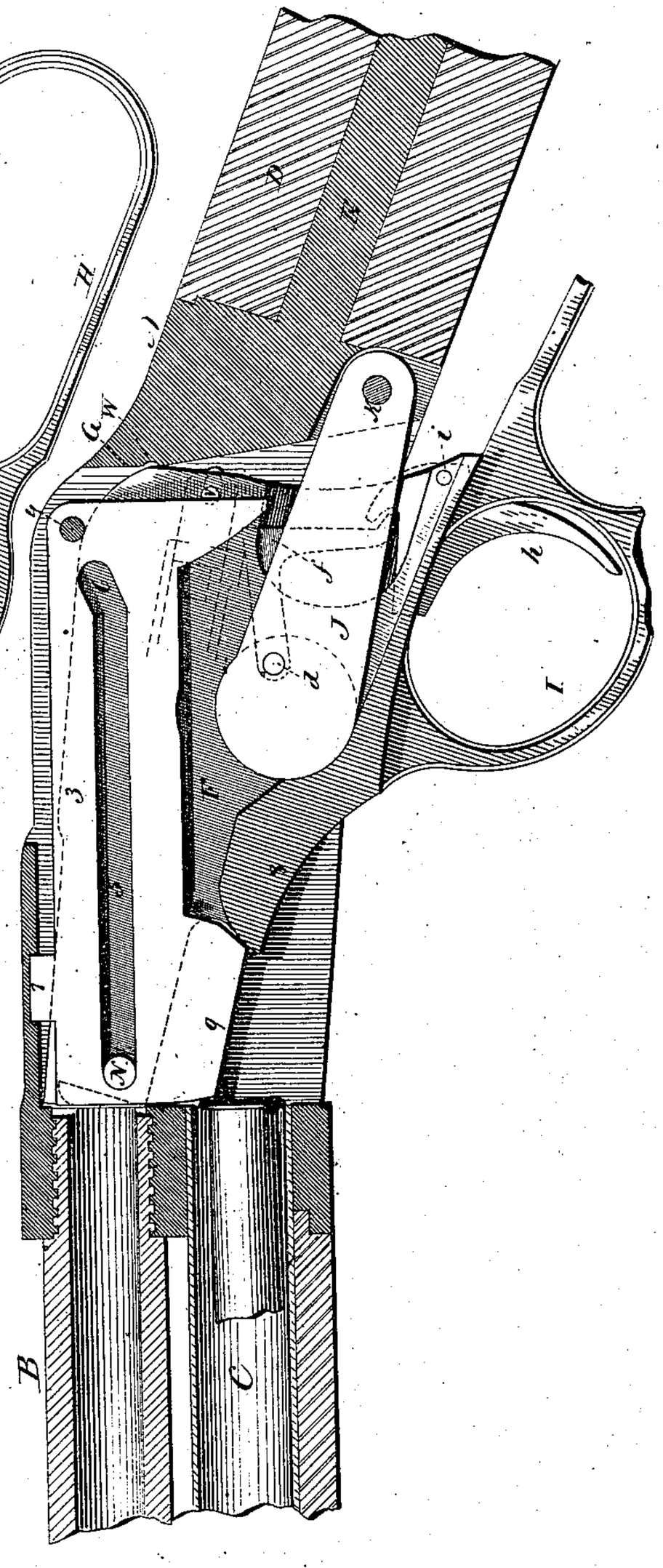


Fig. 4



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MAGAZINE FIRE ARM.

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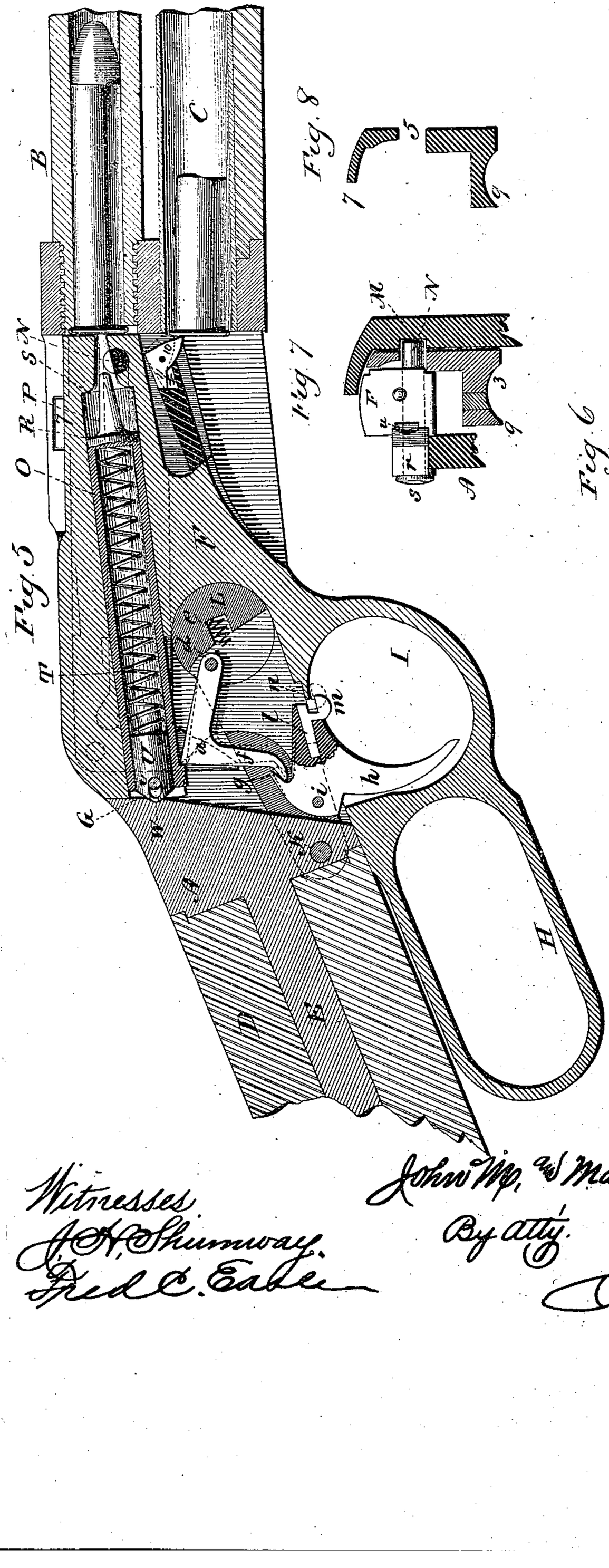

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MAGAZINE FIRE ARM.

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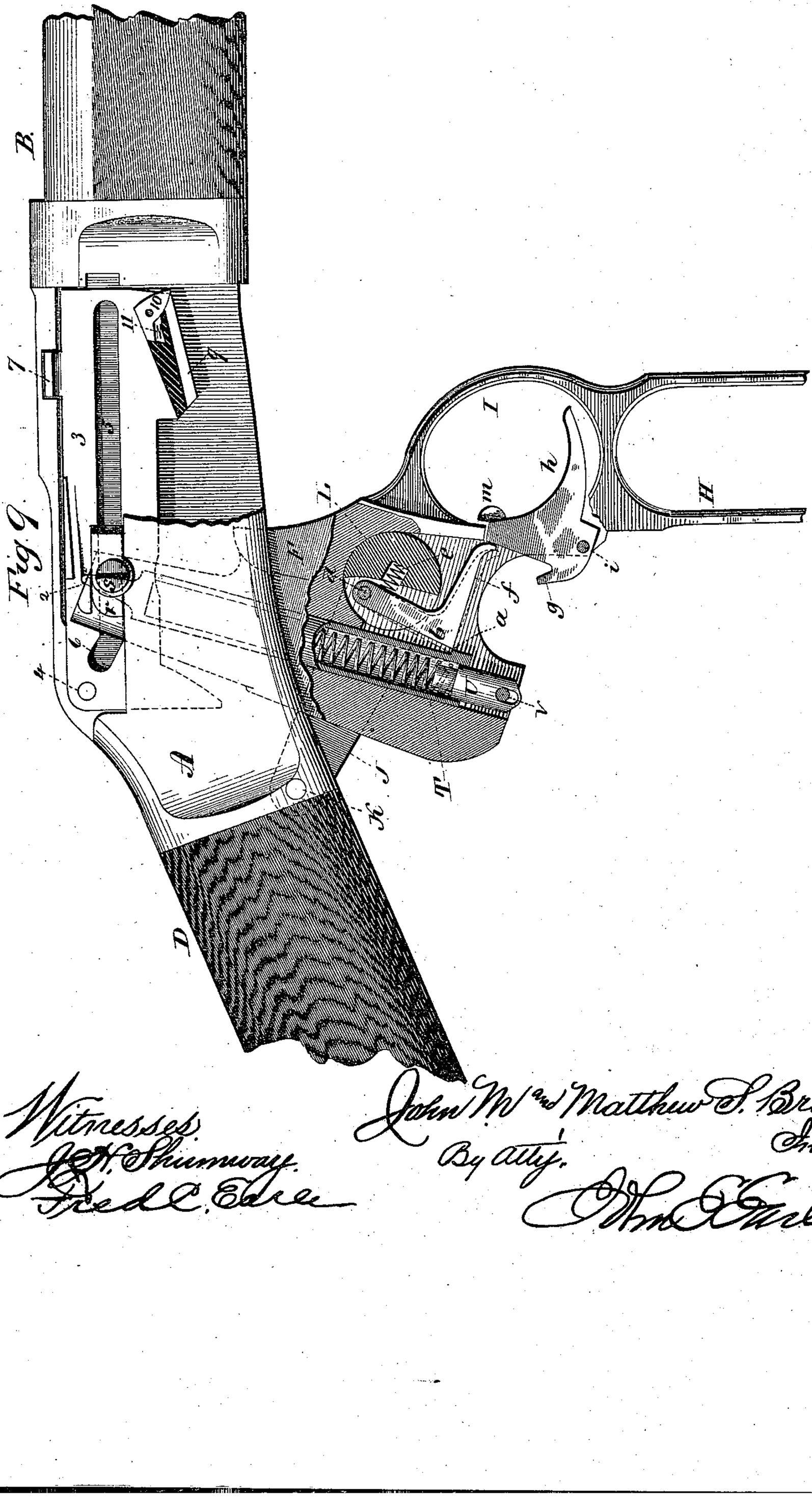
Fig 9.



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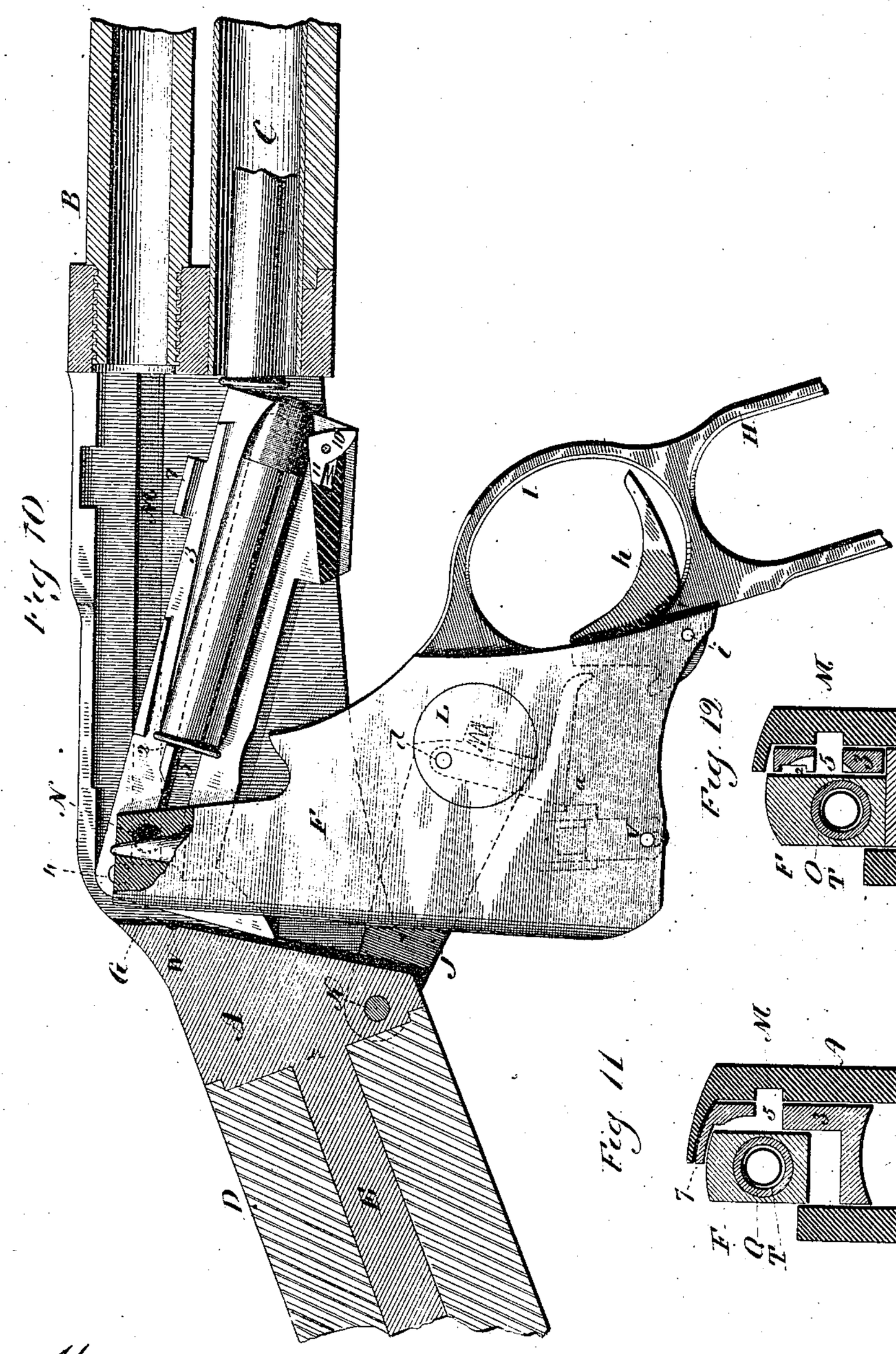

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UNITED STATES PATENT OFFICE.

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MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 376,576, dated January 17, 1888.

Application filed November 21, 1887. Serial No. 255,710. (No model.)

To all whom it may concern:

Be it known that we, JOHN M. BROWNING and MATTHEW S. BROWNING, of Ogden, in the county of Weber and Territory of Utah, have invented a new Improvement in Magazine Fire-Arms; and we 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 right-hand side view of the arm complete; Fig. 2, a top view of the same; Fig. 3, a sectional side view looking from the left-hand side, showing the parts in their normal position; Fig. 4, the same as Fig. 3, showing the breech-piece as just commencing its opening movement; Fig. 5, a sectional view from the right-hand side, showing the parts in their closed position, with the hammer cocked; Fig. 6, a partial horizontal section showing the slot through the carrier and the corresponding groove in the receiver; Fig. 7, a front end view of the extractor-block and transverse section of the receiver and carrier, the position of the extractor-block being in rear of its normal position; Fig. 8, a transverse section of the carrier detached; Fig. 9, a sectional side view from the right, showing the breech-piece approaching its extreme open position, and before the carrier commences its descent; Fig. 10, the same as Fig. 9, but with the breech-piece in its extreme open position and the carrier down; Fig. 11, a transverse section on line *x x* of Fig. 3; Fig. 12, a transverse section on line *y y* of Fig. 3.

This invention relates to an improvement in that class of magazine fire-arms in which the magazine is arranged longitudinally beneath the barrel, and so as to open into the receiver below the barrel, and particularly to that class in which the breech-piece is adapted to be operated by a handle extending downward therefrom beneath the receiver, and which forms substantially the trigger-guard, the handle itself in this case being made substantially a part of the breech-piece, parts of the invention being applicable to single-loaders.

The object of the invention is a simple construction in which the lock mechanism may be arranged entirely within the breech-piece and the hammer automatically forced to its full-cock position under the movement of the breech-piece. Under this construction the breech-piece, carrying the entire lock mechanism, is hung to the receiver by a link, the forward end of the link being hung upon a pivot in the breech-piece and extending to the rear. The link is hung upon a pivot in the frame or receiver, and so that in the opening movement of the breech-piece the link causes the rear end of the breech-piece to drop, while the forward end is guided longitudinally in the receiver, by which operation the opening movement of the breech-piece is produced in a length substantially no greater than the length of the breech-piece itself, the lock mechanism being also arranged in the breech-piece. The swinging movement of the link is adapted to act as a cam to throw the hammer to the full-cock position, where it is engaged by a sear, also hung in the breech-piece. Combined with the breech-piece is a carrier, which is adapted to be thrown down as the breech-piece approaches its extreme open position, so as to receive a cartridge from the magazine, and then as the breech-piece commences its forward or closing movement the carrier is thrown upward to bring the cartridge to a position in rear of the barrel and forward of the advancing breech-piece.

In the illustrations, A represents the receiver, to the forward end of which the barrel B is attached in the usual manner, with the magazine C below it, both the magazine and the barrel opening into a recess in the receiver at the rear, also in the usual manner, the rear end of the breech-piece being adapted to be secured to the stock D in any suitable manner. (Here represented as by a shank, E, which extends rearward from the receiver into the stock.)

F represents the breech-piece, which is of a length corresponding to the opening in the receiver in rear of the barrel, its forward end adapted to close the rear end of the barrel and its rear end to rest against the rear end of the

recess in the receiver, as at G. The breech-piece is extended downward through the opening below the receiver and terminates in a handle, H, forming, also, the trigger-guard I, the breech-piece, handle, and trigger-guard being preferably made in one piece.

J represents a link which is hung upon a pivot, K, in the receiver at the rear of the breech-piece, as seen in Figs. 3 and 4. The link extends forward upon one side of the breech-piece and terminates at its forward end in a transverse trunnion, L, which extends through a corresponding opening in the breech-piece, and as seen in Fig. 11. When the breech-piece is in the closed position, the said link stands in the position of a brace, as represented in Fig. 3, tending to support the breech-piece, the breech-piece, however, taking a firm bearing at the rear against the rear end of the opening in the receiver, as at G, which is in substantially a direct line with the barrel, so that the force of resistance will come at the said point G.

In the receiver on one side of the breech-piece is a longitudinal groove, M, (see Figs. 6 and 7,) and at the forward end of the breech-piece on that side is a stud, N, which extends into and so as to work longitudinally in the said groove M as the breech-piece moves backward and forward.

To open the breech-piece, the handle is turned downward, the breech-piece being permitted to swing downward upon the stud N as its center of motion. At the same time the link J, being connected to both the receiver and to the breech-piece, causes the rear end of the breech-piece to drop, the breech-piece turning upon the trunnion L of the link and forms a pivot, upon which the breech-piece also turns, and so that the stud N, following in the groove M of the receiver, will cause the forward end of the breech-piece to move longitudinally rearward, while the rear end will be forced downward through its connection with the link, the breech-piece turning upon the trunnion of the link in so doing, and until the breech-piece reaches its wide-open position, (indicated in Fig. 10,) at which time, owing to the combined action of the link and the longitudinal groove in the receiver, the breech-piece has assumed substantially a vertical position. Then, as the handle is drawn rearward to close the breech-piece, the forward end returns, guided by its stud N in the groove M. At the same time the rear end swings upward under the influence of the link, until finally it is brought to its closed position. (Indicated in Fig. 5.)

The point of connection between the link and the breech-piece is above the point of connection between the link and the receiver. Consequently the first part of the opening movement of the breech-piece, as from the position in Fig. 3 to that seen in Fig. 4, is simply to give it a downward movement on its stud N as the center of motion, and this movement takes the rear end of the breech-piece below the recoil-bearing surface G in the receiver, and as indicated in Fig. 4. From that bearing-surface downward the rear end of the receiver recedes to a sufficient extent to permit the movement of the breech-piece described, and as indicated in Figs. 3 and 4; but it will be observed that the length of the opening in the receiver for the breech-piece is no greater than the length of the breech-piece, and that the entire opening movement of the breech-piece takes the breech-piece from the barrel to an extent nearly the length of the breech-piece itself, which permits the employment of the maximum length of cartridge and without an increased length of receiver, thus permitting a construction of a short receiver adapted to the longest cartridge, and whereby the weight of the arm is materially reduced over what is necessary in the ordinary construction with a longitudinally-moving breech-piece.

The hammer O is of tubular shape, and is arranged in a corresponding longitudinal recess, P, in the breech-piece, the hammer being constructed with a shoulder, R, near its forward end, and from that shoulder the forward end is reduced to form the striking-point, which passes through a corresponding opening in the forward end of the breech-piece, the shoulder R, when the hammer is in the extreme forward position, being adapted to bear upon a shoulder, S, in the breech-piece, and as indicated in Fig. 3.

Within the tubular hammer a helical or other suitable spring, T, is arranged, its forward end bearing against the forward closed end of the hammer, and at the rear end the spring bears against a seat in the breech-piece. In this case the seat is represented as a sliding latch, U, which is adapted to aid in holding the breech-piece in its closed position. The tendency of the spring is to force the hammer forward, and under the arrangement shown the same spring serves to throw the latch U rearward through the rear end of the breech-piece. This latch is supported so as to permit only a limited amount of longitudinal movement, by means of a pin, V, in the receiver, through a slot in the latch, and as indicated in Fig. 5. The outer end of the latch U is of double-bevel shape, its nose adapted to engage a notch, W, in the receiver on the recoil-surface G, and as seen in Fig. 5; and thus engaged, under the action of the mainspring, this latch serves to hold the breech-piece in its closed position, but yet, because of its double-bevel shape, permits the opening force applied to the lever to force the latch inward against the mainspring, so that the breech-piece may escape from its closed position, and then on the return of the breech-piece the bevel-nose permits the latch to ride into its recess to again secure the breech-piece.

The hammer upon its under side is constructed with a shoulder, *a*, (see Fig. 5,) which is the engaging-shoulder or full-cock notch. (See Figs. 9 and 10.)

b represents the sear, which is hung upon a pivot, *d*, eccentrically on the trunnion L of the link J, and in the trunnion a spring, *e*, is arranged, the tendency of which is to bear the sear toward the hammer while the breech-piece is in the open position; but after engagement of the sear with the hammer, and in the closing movement of the breech-piece, the spring is carried away from the sear, as indicated in Fig. 5, the engagement between the hammer and the sear being sufficiently strong to retain that engagement without the aid of the spring. The free end of the sear is adapted to engage the shoulder *a* of the hammer when permitted so to do. From the sear a finger, *f*, extends downward, and is arranged so that it may be engaged by a shoulder, *g*, on the trigger *h*, the said trigger being hung in the breech-piece upon a pivot, *i*, and as seen in Fig. 5. When the parts are in the normal position, the hammer forward and free, the shoulder *a* of the hammer stands forward of the nose of the sear, as indicated in Fig. 3; but as the breech-piece is turned to its extreme open position, as seen in Fig. 10, the rotative movement of the trunnion in one direction and of the breech-piece in the opposite direction causes the nose of the sear to come to a position forward of the shoulder *a* on the hammer, and as clearly indicated in Fig. 10. Then, as the closing movement of the breech-piece is commenced, the nose of the sear engages the shoulder *a* of the hammer, as seen in Fig. 9, and from this point to the closing movement the hammer and sear will retain their engagement, the result of which is that the hammer will be forced to the rear to the extent that the shoulder *a* stands forward of the nose of the sear in its normal condition, and consequently the hammer will be brought to full-cock, as seen in Fig. 5, in which condition the finger *f* of the sear is in a position to be engaged by the trigger when it is pulled, and by a pull upon the trigger the sear will be drawn down out of engagement with the hammer, as indicated in broken lines, Fig. 5, leaving the hammer free to be thrown forward under the action of its mainspring. Because of this arrangement of the sear and trigger, it will be observed that the finger of the sear is forward of and out of the reach of the trigger until the breech-piece is brought to its closed position.

To lock the trigger, so as to prevent its possible engagement with the sear in the full-cock position, I arrange a sliding dog, *l*, in the trigger, forward of its pivot, with a downward projection, *m*, therefrom through the trigger into the trigger-guard, and so that the dog may be thrown forward onto a corresponding keeper, *n*, as indicated in broken lines, Fig. 5, and thus the pull of the trigger will be impossible; but if the dog *l* be drawn rearward, as indicated in Fig. 5, then the trigger will be free, and may operate the sear when in the fully-closed position. The projection *m* is in a position forward of the finger bearing upon the trigger, so that it may be readily forced forward or drawn rearward by the same finger. This trigger-locking device is provided as a safeguard against accidents.

The breech-piece is provided with an extractor. This consists of a block, *r*, hung upon the side of the breech-piece upon a pivot, *s*. (See Figs. 1 and 2.) This block is upon the side of the receiver opposite the groove. On the extractor side of the breech-block the receiver is cut down so as to form a straight longitudinal guide, *t*, which is parallel with the groove *m* upon the opposite side, and this block *r* rides upon the guide *t* in the opening and closing movement of the breech-piece, so as to maintain its longitudinal or parallel position irrespective of the rotative movement of the breech-piece.

At the forward end of the block *r*, as seen in Fig. 6, the extractor-hook *u* is arranged. This hook is in the form of a bolt adapted to slide transversely in the block *r* and under the action of a spring, *w*, the tendency of which is to force the nose of the extractor-hook inward, the forward end of the extractor-hook being beveled, so as to ride over the flange of the cartridge as the breech-piece approaches its closed position, and in the usual manner of extractor-hooks; but as the hook presents substantially a square or right-angular surface upon its rear side it engages the flange of the cartridge, as seen in Fig. 6, and so that the breech-piece, in its opening movement, will draw the exploded shell or cartridge, if it be not exploded, in the usual manner of extractors, and because of the extractor being longitudinally guided it maintains its hold upon the cartridge or shell throughout its movement.

The ejection of the cartridge is through the right-hand side of the frame and over the guiding-surface on which the slide *r* rides, this opening being clearly seen in Figs. 1, 2, and 6.

A shoulder, 2, is provided at a point stationary with relation to the rearward-moving breech-piece and upon the side of the breech-piece opposite the extractor, this shoulder being at a point forward of the extreme rear position of the extractor, and so that as the breech-piece approaches its extreme rear movement, as indicated in Fig. 6, the flange of the cartridge or shell will strike the said shoulder 2, as indicated in broken lines, Fig. 2, opposite the extractor, and then, as the extractor completes its rear movement, the shell or cartridge being arrested by said shoulder 2, and still under the influence of the extractor-hook, will cause the cartridge or shell to turn outward, as indicated in broken lines, Fig. 6, and be ejected from the arm.

So far the invention is applicable alike to both magazine and single loaders.

As a magazine-arm the carrier 3 is hung upon a pivot, 4, at the rear, and upon the grooved side of the receiver the carrier is constructed with a longitudinal slot, 5, corresponding from its forward end to near its extreme

rear end with the groove M in the receiver, and so that in the normal position the carrier stands up and in line with the barrel, the slot 5 of the carrier being in line with the groove M in the receiver, as indicated in Fig. 3, and so that the stud N on the breech-piece works through the slot 5 in the groove M. The slot 5 at its ar end turns obliquely upward, as at 6, Figs. 3 and 4, and so that as the breech-piece approaches its extreme rear movement its stud N will act upon this oblique portion 6 of the slot 5, and thereby impart the downward or dropping movement to the carrier, and so as to bring it into position to receive the cartridge from the magazine, as indicated in Fig. 10, and so that when the carrier is in its down position a cartridge will be forced from the magazine onto the carrier in the usual manner for magazine-arms. Then, as the breech-piece commences its forward movement, the stud N, working through the oblique portion 6 of the slot 5, forces the carrier upward, as indicated in Fig. 9, and so that the cartridge will stand in direct line with the barrel. Then as the breech-piece moves forward it strikes the rear end of the cartridge and forces the cartridge forward into its place in the barrel. To arrest the cartridge when it has completely passed onto the carrier, the shoulder 2 is formed on the carrier, as seen in Fig. 10. This is the same shoulder which serves to aid in the ejectment of the cartridge, as before described. To prevent the cartridge from being thrown from the carrier in its sudden transfer from the magazine or in the sudden movement of the carrier, an overhanging finger, 7, is formed on the carrier, as indicated in Fig. 12; and because of the ejection of the cartridge from the side of the arm the opposite side of the receiver may be constructed to overhang the breech-piece and recess in the receiver, and as indicated in Figs. 2, 7, and 8.

The magazine is charged from the under side, and when the parts are in the normal condition. To do this, a chute is formed by a portion, 8, of the under side of the breech-piece, and a continuation, 9, thereof formed as a part of the carrier. (See Figs. 3, 5, and 12.) These parts, when in the closed position, as seen in Fig. 3, form, with the sides of the receiver, a groove or recess to conduct the cartridges directly into the rear end of the magazine. To hold the cartridges as they are thus introduced, a latch, 10, is hung in the part 9 of the carrier, as seen in Fig. 5, which will yield, as indicated in broken lines, for the passage of the cartridge into the magazine but will drop in rear of the head of the cartridge under the action of the latch-spring 11.

We claim—

1. The combination of a receiver having a vertical recess therein, a barrel at the forward end of the receiver opening into said recess, a breech-piece in length corresponding to said recess in the receiver and adapted to rest in its closed position against the rear end of the said recess in the receiver to resist recoil, the said breech-piece provided with an extension therefrom beneath the receiver by which the said breech-piece may be moved, the receiver constructed with a longitudinal groove in one side of said recess, and the breech-piece provided with a stud near its forward end adapted to work in said longitudinal groove, with a link hung by one end to the receiver in rear of the breech-piece and hung by the other end to the breech-piece near its rear end, substantially as described.

2. In a fire-arm having the barrel opening into the receiver at the rear, a breech-piece arranged in said receiver, the said receiver constructed upon its inner side with a longitudinal groove, and the breech-piece provided with a stud projecting therefrom adapted to work in said groove, the breech-piece also adapted to take a bearing at the rear end of the recess in the receiver, a link, one end pivoted to the receiver in rear of the breech-piece, the other end of the link constructed with a transverse trunnion arranged in a corresponding recess in the breech-piece, a hammer arranged longitudinally in the breech-piece above the said trunnion and provided with a mainspring, a sear in the receiver hung eccentrically to the axis of said trunnion, the hammer constructed with a shoulder corresponding to the nose of the said sear, the nose of the said sear being adapted to engage the shoulder on the hammer in the closing movement of the breech-piece, with a trigger arranged to engage said sear when the breech-piece is in the closed position, substantially as described.

3. The combination of a receiver, a barrel opening at the rear into said receiver, a breech-piece arranged in said receiver and adapted to swing in a vertical plane in opening and closing, the receiver constructed with a longitudinal groove in one side, the breech-piece provided with a stud corresponding to and adapted to work in said longitudinal groove, the said breech-piece adapted at its rear end to take a bearing on the receiver, a link hung by one end to the receiver in rear of the breech-piece, the other end of the link hung to the breech-piece and so that the breech-piece may turn thereon in its opening and closing movement, a double-bevel spring-latch in said breech-piece, and corresponding notch in the receiver, through which said latch is adapted to engage when the breech-piece is in the closed position, substantially as described.

4. The combination of a receiver, a barrel opening at the rear into said receiver, a breech-piece arranged in said receiver and adapted to swing in a vertical plane in opening and closing, the receiver constructed with a longitudinal groove in one side, the breech-piece provided with a stud corresponding to and adapted to work in said longitudinal groove, the said breech-piece adapted at its rear end to take a bearing in the receiver, a link hung by one end to the receiver in rear of the breech-piece, the other end of the link hung to the breech-piece and so that the breech-

piece may turn thereon in its opening and closing movement, a tubular hammer arranged in a corresponding longitudinal recess in said breech-piece, a double-bevel latch arranged in the breech-piece in rear of said hammer, the recess in the receiver being constructed with a notch corresponding to the nose of the said latch, and a spring within said tubular hammer, the rear end of said spring resting against said latch and the other end against the hammer, substantially as described, and whereby said spring serves the double purpose of mainspring for the hammer and a spring for said latch.

5. The combination of a receiver, a barrel opening at the rear into said receiver, a breech-piece arranged in said receiver and adapted to swing in a vertical plane in opening and closing, the receiver constructed with a longitudinal groove in one side, the breech-piece provided with a stud corresponding to and adapted to work in said longitudinal groove, said breech-piece adapted at its rear end to take a bearing in the receiver, a link hung by one end to the receiver in rear of the breech-piece, the other end constructed with a transverse trunnion working in a corresponding recess in the breech-piece and upon which the said breech-piece swings in its opening and closing movement, a tubular hammer arranged in a corresponding longitudinal recess in said breech-piece, a mainspring arranged within said tubular hammer, supported at its rear end, and at its forward end adapted to bear against the hammer, a sear hung eccentrically upon the trunnion of the said link, the hammer constructed with a shoulder with which the nose of the said sear is adapted to engage, the sear constructed with a finger extending downward therefrom, and a trigger hung in the breech-piece and constructed with a shoulder adapted to engage the said finger of the sear, substantially as described.

6. The combination of a receiver, a barrel opening at the rear into said receiver, a breech-piece arranged in said receiver and adapted to swing in a vertical plane in opening and closing, the receiver constructed with a longitudinal groove in one side, the breech-piece provided with a stud corresponding to and adapted to work in said longitudinal groove, said breech-piece adapted at its rear end to take a bearing in the receiver, a link hung by one end to the receiver in rear of the breech-piece, the other end constructed with a transverse trunnion working in a corresponding recess in the breech-piece and upon which the said breech-piece swings in its opening and closing movement, a tubular hammer arranged in a corresponding longitudinal recess in said breech-piece, a mainspring arranged within said tubular hammer, supported at its rear end, and at its forward end adapted to bear against the hammer, a sear hung eccentrically to the trunnion of the said link, the hammer constructed with a shoulder with which the nose of the said sear is adapted to engage, a trigger arranged in the breech-piece and adapted to engage said sear when the breech-piece is in the closed position, with a sliding dog arranged in the trigger forward of its pivot, and a corresponding bearing for the dog in the breech-piece forward of the trigger, substantially as and for the purpose described.

7. The combination of a receiver having a vertical recess therein, a barrel at the forward end of the receiver opening into said recess, a breech-piece in length corresponding to said recess in the receiver and adapted to rest in its closed position against the rear end of the said recess in the receiver to resist recoil, the said breech-piece provided with an extension therefrom beneath the receiver by which the said breech-piece may be moved, the receiver constructed with a longitudinal groove in one side of said recess, and the breech-piece provided with a stud near its forward end, adapted to work in said longitudinal groove, with a link hung by one end to the receiver in rear of the breech-piece and hung by the other end to the breech-piece near its rear end, the receiver constructed with an opening through its side opposite the said groove, and the said opening forming a longitudinal bearing-surface parallel with the said groove, a block pivoted to said breech-piece near its forward end and adapted to work upon said parallel surface as its guide, with a spring-extractor hook arranged in said block, and an ejector-shoulder opposed to said extractor as the said extractor approaches its extreme rear position, substantially as described.

8. The combination of the receiver having a vertical recess therein adapted to receive the breech-piece, a barrel opening into the receiver at the rear, a magazine beneath the barrel also opening into the receiver at the rear, a breech-piece in length corresponding to said recess in the receiver and adapted to rest in its closed position against the rear end of the said recess in the receiver to resist recoil, the said breech-piece provided with an extension therefrom beneath the receiver by which the said breech-piece may be moved, the receiver constructed with a longitudinal groove in the said recess, and the breech-piece provided with a stud in its forward end adapted to work in said longitudinal groove, with a link hung by one end to the receiver in rear of the breech-piece and hung by the other end to the breech-piece near its rear end, a carrier hung in the receiver and so as to swing in a plane parallel with the plane of movement of the breech-piece, said carrier constructed with a longitudinal slot corresponding to the groove in the receiver and through which the said stud on the breech-piece extends, the said slot in the carrier constructed with an oblique termination at its rear end, substantially as described.

9. The combination of the receiver having a vertical recess therein adapted to receive the breech-piece, a barrel opening into the receiver

at the rear, a magazine beneath the barrel also opening into the receiver at the rear, a breech-piece in length corresponding to said recess in the receiver and adapted to rest in its closed position against the rear end of the said recess in the receiver to resist recoil, the said breech-piece provided with an extension therefrom beneath the receiver by which the said breech-piece may be moved, the receiver constructed with a longitudinal groove in the said recess, and the breech-piece provided with a stud in its forward end adapted to work in said longitudinal groove, with a link hung by one end to the receiver in rear of the breech-piece and hung by the other end to the breech-piece near its rear end, a carrier hung in the receiver and so as to swing in a plane parallel with the plane of movement of the breech-piece, said carrier constructed with a longitudinal slot corresponding to the groove in the receiver and through which the said stud on the breech-piece extends, the said slot in the carrier constructed with an oblique termination at its rear end, the under side of said carrier provided with a downward projection at its forward end, the under surface of which corresponds to the opening into the rear end of the magazine when the carrier is in its up position, and the under surface of the breech-piece constructed to correspond with the said projection and as a continuation thereof, substantially as described, and whereby the under face of the said extension of the carrier and of the breech-piece forms a guide for the introduction of cartridges to the magazine, substantially as described.

10. The combination of a receiver having a vertical recess therein adapted to receive the breech-piece, a barrel opening into the receiver at the rear, a magazine beneath the barrel also opening into the receiver at the rear, a breech-piece in length corresponding to said recess in the receiver and adapted to rest in the closed position against the rear end of the said recess in the receiver to resist recoil, the said breech-piece provided with an extension therefrom beneath the receiver by which the said breech-piece may be moved, the receiver constructed with a longitudinal groove in said recess, and the breech-piece provided with a stud near its forward end adapted to work in said longitudinal groove, with a link hung by one end to the receiver in rear of the breech-piece and hung by the other end to the breech-piece near its rear end, a carrier hung in the receiver and so as to swing in a plane parallel with the plane of movement of the breech-piece, said carrier constructed with a longitudinal slot corresponding to the groove in the receiver and through which the said stud on the breech-piece extends, the said slot in the carrier constructed with an oblique termination at its rear end, the under side of said carrier provided with a downward projection, the under surface of which corresponds to the opening into the rear end of the magazine when the carrier is in its up position, and a spring-latch hung in said projection adapted to engage the heads of the cartridges as they pass into the magazine, substantially as described.

11. The combination of a receiver having a vertical recess therein adapted to receive the breech-piece, a barrel opening into the receiver at the rear, a magazine beneath the barrel, also opening into the receiver at the rear, a breech-piece in length corresponding to said recess in the receiver and adapted to rest in its closed position against the rear end of the said recess in the receiver to resist recoil, the said breech-piece provided with an extension therefrom beneath the receiver by which the said breech-piece may be moved, the receiver constructed with a longitudinal groove in said recess, and the breech-piece provided with a stud near its forward end adapted to work in said longitudinal groove, with a link hung by one end to the receiver in rear of the breech-piece and hung by the other end to the breech-piece near its rear end, a carrier hung in the receiver and so as to swing in a plane parallel with the plane of movement of the breech-piece, said carrier constructed with a longitudinal slot corresponding to the groove in the receiver and through which the said stud on the breech-piece extends, the said slot in the carrier constructed with an oblique termination at its rear end, the receiver constructed with an opening upon the side opposite said groove for the ejection of cartridges, the breech-piece provided with an extractor upon the side opposite said groove, and the carrier provided with an ejector-shoulder opposed to the extractor on the breech-piece as the said extractor approaches its extreme rear position, substantially as described.

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