(No Model.) 3 Sheets—Sheet 1.

J. M. BROWNING.

FIREARM.

No. 580,925. Patented Apr. 20, 1897.

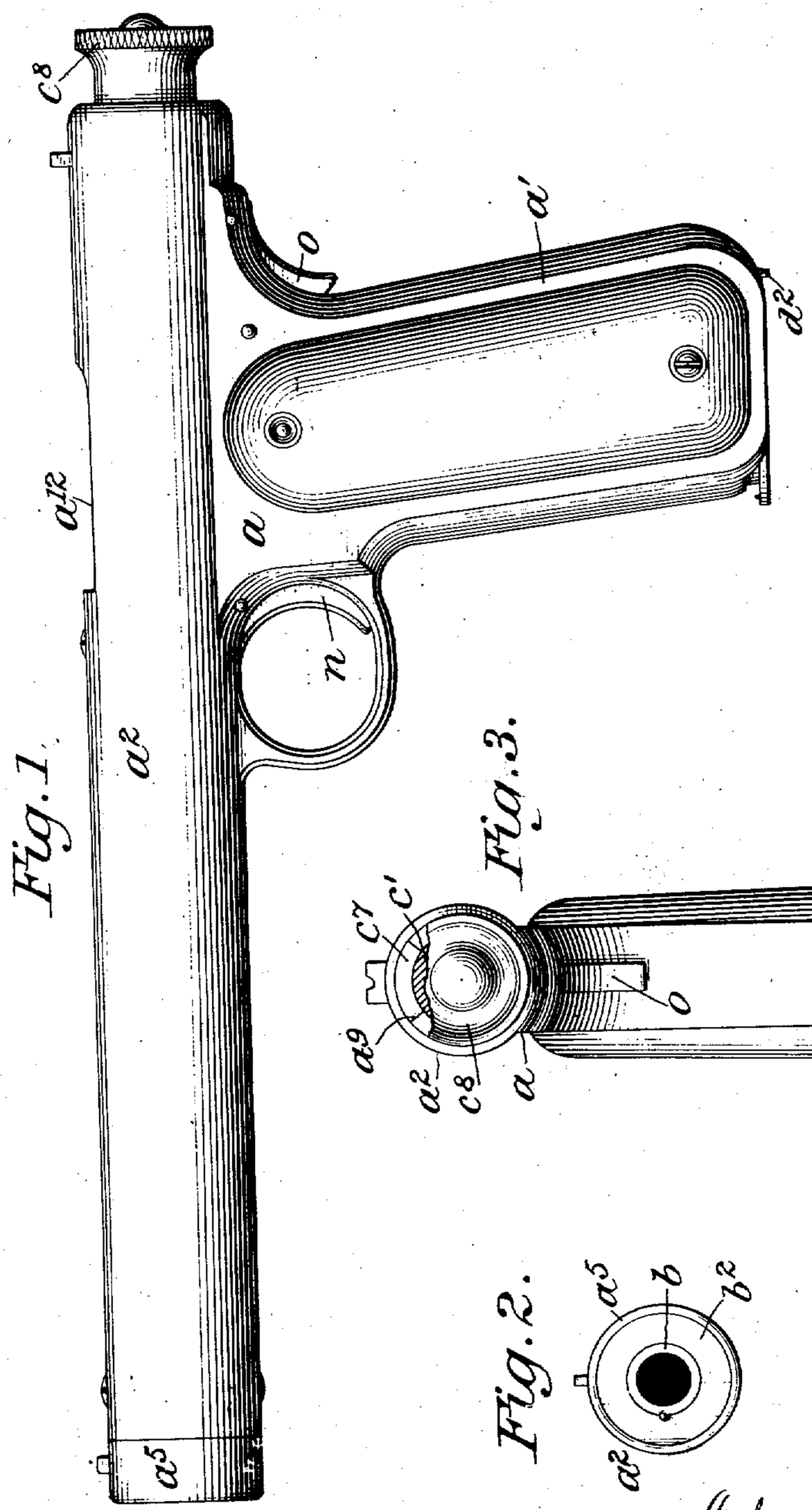

Fig. 1.

Fig. 3.

Fig. 2.

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J. M. BROWNING.

FIREARM.

No. 580,925. Patented Apr. 20, 1897.

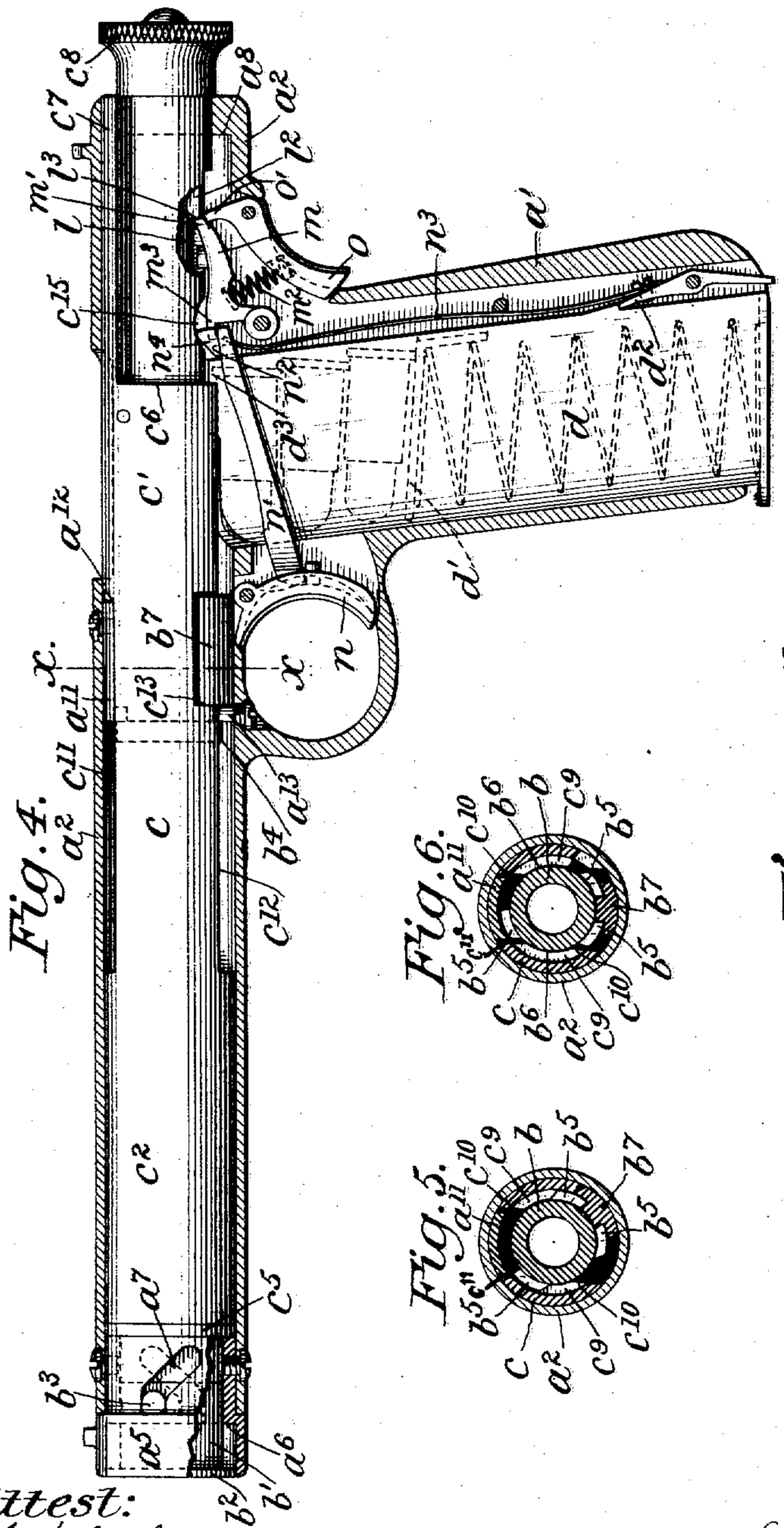

Fig. 4.

Fig. 6.

Fig. 5.

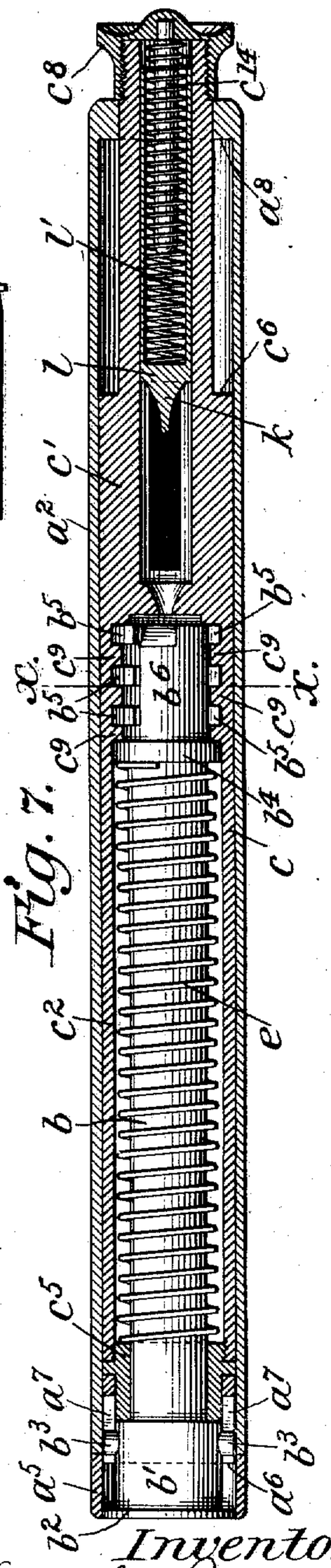

Fig. 7.

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(No Model.) 3 Sheets—Sheet 3.

J. M. BROWNING.

FIREARM.

No. 580,925. Patented Apr. 20, 1897.

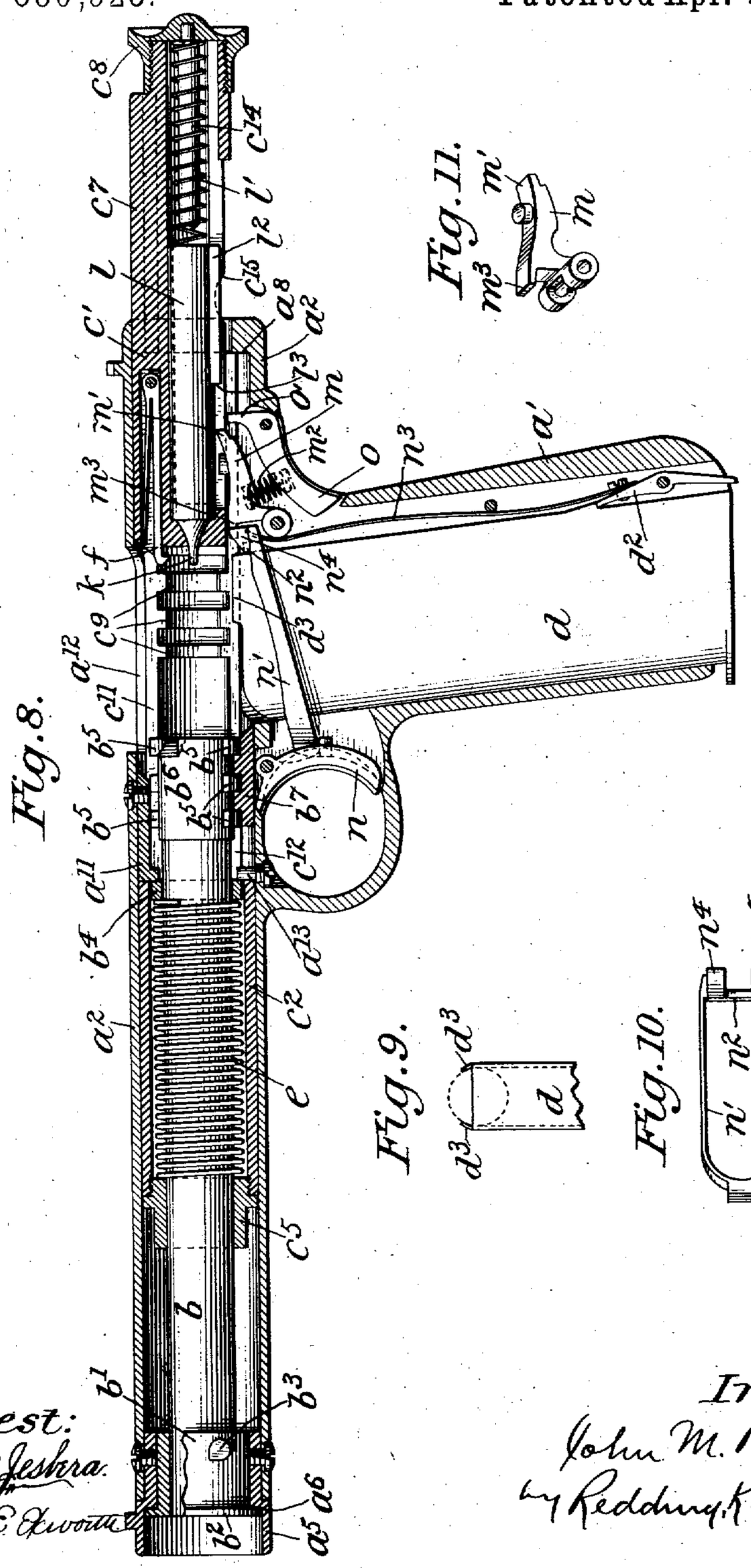

Fig. 8.

Fig. 11.

Fig. 9.

Fig. 10.

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UNITED STATES PATENT OFFICE.

JOHN M. BROWNING, OF OGDEN, UTAH.

FIREARM

SPECIFICATION forming part of Letters Patent No. 580,925, dated April 20, 1897.

Application filed October 31, 1896. Serial No. 610,658. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. BROWNING, residing in Ogden, in the county of Weber, State of Utah, have invented certain new and useful Improvements in Firearms, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

This invention relates generally to the class of automatic breech-loading firearms, and more especially to firearms of this description in which the several operations, such as the unlocking and opening of the breech after firing a shot, the ejection of the empty cartridge-shell, the cocking of the hammer, the presentation and introduction of a fresh cartridge to the chamber of the barrel, and the closing and locking of the breech, are automatically effected by or through the energy of the recoil of the breech block or bolt carrier or that part which at the time of firing the shot closes the breech or rear end or cartridge-chamber of the barrel and of the parts connected therewith after each discharge.

The object which I have had particularly in view has been the production of a firearm of this description which should be compact, well-balanced, comparatively simple and inexpensive in construction, and provided with means whereby the breech-bolt may be locked positively to the rear end of the barrel at the time of firing. I have sought also to provide means to prevent the release of the hammer until the breech is fully closed and all parts are locked in proper position for the discharge of the cartridge and to provide improved means to prevent the release of the hammer after each single discharge until the trigger has been released and is again operated.

In reducing the invention to practice the barrel of the firearm is caused to have a synchronous double movement—that is to say, a movement in the direction of its length and simultaneously therewith another movement—the effect of this double movement being to lock or to unlock the breech block or bolt carrier and at the same time to permit the barrel to move to a limited extent with the breech block or bolt carrier, so as to permit the gases of explosion to have their full effect upon the projectile before the breech is opened.

In another application, filed concurrently herewith and serially numbered 610,657 and to which this application is subordinate, I have sought to cover, broadly, a firearm provided with a movable breech block or bolt carrier and a barrel having a synchronous double movement for the purpose of locking and unlocking the breech block or bolt carrier, and in the particular construction therein shown and described as an embodiment of the invention the secondary movement of the barrel is a bodily movement toward and from the frame upon which the barrel is supported.

In the present application I have shown and described a particular construction which likewise embodies the broad invention referred to, but in which the secondary movement of the barrel is a partial rotation.

The other features of the firearm, which I shall explain hereinafter, have been devised with especial reference, therefore, to their use in conjunction with a barrel which has a limited longitudinal movement and a simultaneous limited rotary movement upon its own axis, but it will be understood, however, that such other features of the firearm are not of necessity limited to their use in a firearm provided with a barrel having such a movement as that to which I have referred nor to a firearm of any particular class or description.

In the firearm which I have described hereinafter the breech block or bolt carrier slides to and fro, being impelled in one direction by the energy of the recoil and in the other direction by the reaction-spring, and in its movements it extracts and ejects the empty shell, moves the hammer to the full-cock position, and introduces a fresh cartridge into the chamber of the barrel. The breech block or bolt carrier operates through other devices to prevent the release of the hammer until the breech is fully closed, and the lock mechanism is so constructed and so arranged as to prevent the disengagement of the sear from the hammer after the hammer has been brought automatically to the full-cock position until the trigger is released and is again operated, thereby preventing the discharge of two or more cartridges at each single operation of the trigger, which would otherwise

inevitably occur by reason of the swiftness of the automatic operation of the firearm.

For the purpose of enabling the nature of my invention to be fully understood I have illustrated the same in the accompanying drawings as embodied in a breech-loading-automatic magazine-pistol, and with reference to such a firearm I will hereinafter explain in detail the several features of my invention, although it is to be understood that the invention is not to be limited thereby to the precise construction, arrangement, and relation of parts which I have represented.

In the drawings, Figure 1 is a left-hand side elevation of a pistol of the class referred to which is constructed in accordance with my invention. Figs. 2 and 3 are respectively front and rear end views of the same, Fig. 3 being partly broken away. Fig. 4 is a vertical longitudinal section of the same on a central plane, but with the breech block or bolt carrier and some other parts in elevation, the breech block or bolt carrier being represented in its closed position in both Figs. 1 and 4. Figs. 5 and 6 are sections on the plane indicated by the line $x\,x$ of Fig. 4, looking rearward, showing the parts in different positions. Fig. 7 is a longitudinal section on a horizontal plane with the barrel in plan view. Fig. 8 is a view generally similar to Fig. 4, but with the breech block or bolt carrier also in vertical longitudinal section and in its extreme rearward or open position, the sear-latch being shown in the position which it assumes when pressed by the hand of the operator in grasping the pistol and in which it will permit the movement of the sear to release the hammer, the trigger itself being shown in its forward position. Figs. 9, 10, and 11 are detail views of parts to be referred to.

The firearm which is illustrated in the drawings and embodies my invention comprises a frame a, a barrel b, which has a limited double movement, and a breech block or bolt carrier c, which is caused to slide to and fro by the energy of the recoil when a shot is fired and by a reaction-spring in which energy is stored by the recoil. The rear portion of the frame a constitutes the receiver, and below the receiver is the grip or handle a', which is preferably made integral with the frame, but obviously may be formed separately and attached thereto in any suitable manner. Within the grip and extending upward into the receiver is arranged a seat or chamber for the reception of the cartridge magazine or holder d, which may be made in any usual or suitable manner, being in effect a sheet-metal tube in which the cartridges are laid one upon another upon a spring-follower d', by which they are pressed upward toward the receiver.

The holder is conveniently retained in place within the grip by a spring-actuated latch d^2, and its upper end is open to permit the escape of the cartridges, the side walls at the rear of the opening being turned in to form ears d^3, Figs. 8 and 9, which engage the rim or flange of the topmost cartridge to prevent the escape of the same from the holder, except when it is pushed forward, as hereinafter described.

Above the grip and trigger-guard the frame is formed as a tubular body a^2, which provides a seat for the breech block or bolt carrier c, in which the latter is guided in its reciprocation, and it is extended forward to a point near the muzzle of the barrel. The latter is connected to the frame at the forward end of the tubular extension and in such a manner as to be capable of a limited double movement, or, more specifically, of a movement in the direction of its length and of a transverse or partial rotary movement. The barrel does not rest directly upon the frame, but is entered within the tubular breech block or bolt carrier c, which slides to and fro within the tubular extension of the frame and about the barrel, the breech block or bolt carrier and barrel being entered together in the frame from the front end. As a means of connection between the barrel and the frame to permit of the desired movement of the former I prefer the construction which I have shown in the drawings, Figs. 2, 4, 7, and 8, and which comprises a collar b', which is secured to the forward end of the barrel b, while a bushing a^5 is secured to the forward end of the tubular extension a^2 of the frame a. An external shoulder b^2 on the collar b' and an internal shoulder a^6 in the bushing a^5 limit the rearward movement of the barrel b with respect to the frame a. Cam-pins b^3, projecting from the collar b', enter obliquely-disposed cam grooves or slots a^7 in the bushing a^5, so that as the barrel moves rearward it receives at the same time a partial rotation through the coöperation of the said cam-pins and the cam-grooves. For a short distance rearward from their forward ends the cam-grooves are preferably made straight or parallel with the axis of the barrel, so that the barrel moves rearward for a short distance before it begins to turn, the object of this being, as will appear more clearly hereinafter, to retard the unlocking of the breech somewhat, so that the powder-gases shall have their full effect upon the projectile before the breech is opened.

The breech block or bolt carrier c comprises the breech-bolt c', which fits in the rear part of the tubular portion or casing a^2 of the frame, and a forward cylindrical extension c^2, which moves freely and is guided within the casing a^2 and is bored out longitudinally for the reception of the barrel b, being of such length that it occupies the casing a^2 to within a short distance of its front end. The extension c^2 is adapted to be engaged by the barrel to lock the breech-bolt c' in its closed position, and is also adapted to be engaged by the reaction-spring e, which is a coiled spring received between the barrel and the tubular extension c^2, the bore of the

latter being of such a diameter as to form a space to receive it.

The front end of the spring *e* rests against the bushing c^5, secured in the forward end of the said extension c^2 and through which the barrel slides freely, while its rear end rests against the collar b^4, loosely mounted on the rear portion of the barrel *b*. Energy is stored in the spring *e* by the recoil of the breech block or bolt carrier, and its reaction effects the forward or closing movement of the breech block or bolt carrier and the barrel. A shoulder c^6 is formed on the breech-bolt *c'* by reducing its diameter to coöperate with a collar a^8 at the rear end of the casing a^2, Figs. 4, 7, and 8, and thereby limit the rearward movement of the breech block or bolt carrier and prevent positively its flying farther back. The collar is cut away, as at a^9, to accommodate a spline c^7, formed on the breech-bolt *c'*, by which means the breech-bolt is kept from turning upon its axis as it moves to and fro. The extremity of the breech-bolt is threaded to receive a knob c^8, which limits the forward movement of the breech block or bolt carrier and can also be conveniently grasped by the fingers, so that the breech block or bolt carrier can be drawn rearward for the first operation of the pistol.

In front of the breech-bolt *c'* and within the bore of the breech block or bolt carrier (see Figs. 5, 6, 7, and 8) are provided one or more annular projections c^9, from which segments are removed, as at c^{10}, and on the barrel, near its breech, are corresponding annular projections or ribs b^5, from which segments are also removed, as at b^6. The projections b^5 on the barrel are adapted to move longitudinally through the openings c^{10} in the ribs c^9 and to enter the grooves in the rear of the ribs c^9 when the barrel is partially rotated. As already described, the barrel moves rearwardly for a short distance with the breech block or bolt carrier when the latter begins its rearward movement, and during the latter part of its longitudial movement the barrel receives a partial rotation through the engagement of the cam-pins b^3 with the cam-slots a^7 in the bushing a^5.

When the barrel and the breech block or bolt carrier are in their extreme forward positions, the projections b^5 are in engagement with the projections c^9 of the breech block or bolt carrier, as shown in Figs. 5 and 7, thereby locking the barrel and the breech block or bolt carrier together, but when the rearward movement begins and the barrel is partially rotated, the breech block or bolt carrier is disengaged from the barrel *b*, as shown in Figs. 6 and 8, and by reason of its momentum continues its rearward movement, while the barrel is brought to rest. During the last of the forward movement of the breech block or bolt carrier the barrel is moved forward with it and at the same time receives a partial rotation in the opposite direction, whereby the barrel and the breech block or bolt carrier are again locked together.

It will be understood that the portions of the cam grooves or slots a^7 which are parallel with the axis of the barrel permit the latter to move rearwardly for a short distance with the breech block or bolt carrier before the breech is unlocked, thereby delaying the opening of the breech until the powder-gases have had their full effect upon the projectile.

Forward of the breech-bolt *c'* the breech block or bolt carrier is provided in its upper side with an opening c^{11}, Figs. 4, 5, 6, and 8, through which the empty shell may be ejected. A block a^{11} is secured to the frame *a* in front of the corresponding opening a^{12} and enters the opening c^{11}. (Shown in Figs. 4 and 8.) Its forward end forms an abutment for the collar b^4, Figs. 4 and 8, which supports the rear end of the reaction-spring *e*, and a screw a^{13} projects through the frame from the under side in line with the end of the block a^{11} to form also an abutment for the collar b^4, so that the rear end of the reaction-spring *e*, which rests against the collar b^4, is in effect supported by the frame *a*. The screw a^{13} projects through an opening c^{12} in the under side of the breech block or bolt carrier *c*, which is widened at its rear end to form a square shoulder c^{13} on one side. (See Fig. 4.)

A piece or block b^7 is secured to the barrel *b* to move therewith and is adapted to slide in the opening c^{12}, partaking both of the rotary and of the longitudinal movements of the barrel. When the barrel is in its extreme forward position with its breech end against the face of the breech-bolt *c'*, the front end of the block b^7 is on a line with the shoulder c^{13}, so that the barrel may be rotated to permit its sectional ribs or projections b^5 to interlock with the corresponding sectional ribs or projections c^9 of the breech block or bolt carrier and so to lock the barrel and the breech block or bolt carrier together, the block b^7 moving laterally into the wide part of the opening c^{12} in rear of the shoulder c^{13}. In order that the barrel may be unlocked from the breech block or bolt carrier, it must be rotated in the opposite direction until the block b^7 clears the shoulder c^{13}. If the breech block or bolt carrier is then moved rearwardly while the barrel is prevented from moving with it, the block b^7 will slide in the forward narrow part of the opening c^{12} along the straight part of the side forward of the shoulder c^{13}, preventing rotation of the barrel until the return or closing movement of the breech block or bolt carrier again brings the shoulder c^{13} into line with the front end of the block c^7.

The cartridges are held from escaping vertically from the magazine or holder *d* by the ears d^3, but they are pressed upward by the follower *d'*, so that as the breech-bolt *c'* passes to the rear of the magazine or holder the flange of the uppermost cartridge is projected up-

ward between the ears d^3 into the path of the breech-bolt, and on the forward or closing movement of the latter the cartridge, which is then in an inclined position with the bullet directed toward the open breech of the barrel, is thrust forward by the breech-bolt into the chamber of the barrel. The lower side of the breech-bolt is grooved to travel freely over the upper end of the magazine or holder d, so that the uppermost cartridge can be thereby brought sufficiently near the axis of the barrel to be inserted into its chamber, as already described.

As referred to above, an opening a^{12} is formed in the top of the frame a in a position to correspond with the opening c^{11} in the breech block or bolt carrier when the latter is in its rearward position to permit of the ejection of the empty shell. An extractor f, Fig. 8, of ordinary construction, is carried by the breech-bolt to engage the cartridge during the last of the forward or closing movement of the breech-bolt and to withdraw the shell from the chamber of the barrel during the rearward or opening movement of the breech-bolt. The ejection of the shell is effected by the ejector operating in conjunction with the firing-pin, as described hereinafter.

In a longitudinal chamber in the breech-bolt c' is arranged the hammer or striker l, Figs. 7 and 8, the forward part of which forms the firing-pin k. The body of the hammer l is hollow and contains the coiled mainspring l'. The rear end of the spring is supported by a pin c^{14}, fixed to the knob c^8 and projecting into the breech-bolt. The length of the firing-pin k is such that its point protrudes considerably from the face of the breech-bolt c' and under the pressure of the spring l' serves to eject the shell when the rearward movement of the breech-bolt and the extractor has withdrawn the same from the barrel, the upper edge of the head of the shell being held by the extractor.

On its lower side the hammer l has a longitudinal rib l^2, Fig. 8, which prevents rotation of the hammer, while its front end forms a shoulder l^3, with which the sear m may engage during the forward movement of the breech-bolt to cock the hammer, a slot being formed through the bottom of the breech-bolt to permit of such engagement. The sear m is pivoted in the casing of the frame a below the breech block or bolt carrier and in the rear of the magazine, the point m' of the sear in rear of and above its pivot being kept yieldingly in the path of the shoulder l^3 by a sear-spring m^2. In rear of the sear m is pivoted a latch o, the point o' of which is held yieldingly beneath the point m' of the sear m by the sear-spring m^2, so that the sear cannot be moved to release the hammer unless the latch is first moved from beneath the sear-point. To enable this to be done, the lower part of the latch o projects through a slot in the rear of the grip a' in such a way that when the pistol is grasped and held in the proper position for firing the latch o will be moved so as to release the sear, as shown in Fig. 8, which represents the several parts in the positions which they occupy after the latch has been moved and before the trigger is pulled. The trigger n is pivoted in the casing or frame in front of the grip a', and between the trigger and the sear is a connecting-piece n', Figs. 4, 8, and 10, which serves to transmit the rearward movement of the trigger to the sear m.

The front end of the connecting-piece is supported upon a shoulder of the trigger, and in rear of this the piece is divided into two arms, which pass around the cartridge-holder without interfering with the same and are united in rear of it by a cross-bar n^2. A spring n^3, bent rearwardly at its upper end, bears against the cross-bar n^2, tending to raise it and at the same time to yieldingly hold the connection-piece n' and the trigger n in their forward position. The center of the cross-bar stands normally in front of a forward projection m^3, Figs. 4, 8, and 11, of the sear, so that as the trigger is pulled and the connecting-piece moved rearwardly the cross-bar bears against said projection m^3 and turns the sear-point m' out of the path of the shoulder l^3 on the hammer l, thereby releasing the latter and permitting it to be thrown forward by the spring l'. On its upper side the cross-bar is provided with lugs n^4, one on each side of the projection m^3 of the sear, which, under the action of the spring n^3, bear against the under side of the breech-bolt c'.

Recesses c^{15} are formed in the under side of the breech-bolt to correspond with lugs n^4, so that when the breech-bolt is in its extreme forward position in readiness for firing the lugs n^4 will enter the recesses c^{15} and permit the cross-bar n^2 to rise, so that it shall engage the projection m^3 of the sear when the trigger is pulled, but when the breech-bolt is in any other than the firing position the lugs n^4, bearing against the breech-bolt, will depress the cross-bar below the plane of the projection m^3, so that the movement of the trigger and of the connecting-piece shall have no effect on the sear, wherefore only when the parts are in the proper position for firing can the hammer be released to fire a shot by pulling the trigger. Furthermore, as soon as the rearward movement of the breech-bolt has begun the cross-bar n^2 is depressed and leaves the sear free, so that under the influence of its spring m^2 its point m' at once returns into the path of the hammer and is in readiness to engage the shoulder l^3 thereof when the breech-bolt and hammer reach their extreme rearward position and thereby to cock the hammer against the stress of the spring l' as the breech-bolt is returned to its forward position by the reaction-spring e. By the return of the sear its projection m^3 is moved so as to stand above the cross-bar n^2, and the latter therefore cannot resume its position in front

of the projection m^3 until the trigger is released and the trigger and connecting-piece n' move forward together. Then the lugs n^4 again enter the recesses c^{15} and the parts are in readiness for the firing of another shot. It will be observed that the lugs n^4 in this construction operate as a safety-piece in substantially the same manner as the independent safety-piece shown and described in my said application hereinbefore referred to. These means permit a positive control of the firing, so that the discharge of two or more shots in immediate succession before the trigger is released is prevented, and it is necessary in order to fire a second shot to release the trigger and pull it again.

The operation of the firearm which I have chosen herein as a convenient embodiment of my invention will now be readily understood in view of the foregoing description of the construction, arrangement, and relations of its parts.

A cartridge-holder fully charged having been inserted in the seat therefor in the grip the breech block or bolt carrier is once drawn rearward to the full extent by grasping the knob c^8. This movement draws the barrel rearwardly and effects a partial rotation thereof, thereby releasing the breech block or bolt carrier from the barrel and opens the breech, a cartridge being at the same time presented in rear of the barrel. When the knob c^8 is released, the breech block or bolt carrier is returned to its former position by the spring e, the hammer is cocked, the cartridge is transferred to the barrel, the breech is closed, and the barrel and the breech block or bolt carrier are locked together, thus putting all the parts in position for firing. If the trigger is now pulled, a shot will be fired and the opening movements of the parts will be effected by the recoil, during which the empty shell is extracted and ejected, and thereafter the succeeding operations will be effected as before.

It will be understood that I do not intend to limit my invention to its application to a magazine-pistol, nor to any other particular kind or class of firearm, nor to the use of the several features together in one common structure, nor to the precise construction of those features which I have herein shown and described.

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

1. In a firearm, the combination with a frame, a barrel and a breech block or bolt carrier having a common longitudinal movement and a relative longitudinal movement, of a connection between said barrel and said frame whereby a rotary movement of said barrel relative to said breech block or bolt carrier is effected as the common longitudinal movement takes place, and means preventing rotary movement of the barrel during the relative longitudinal movement of the barrel and the breech block or bolt carrier.

2. In a firearm, the combination with a frame, a barrel and a breech block or bolt carrier having a common longitudinal movement and a relative longitudinal movement, of a connection between said barrel and said frame whereby a rotary movement of said barrel relative to said breech block or bolt carrier is effected as the common longitudinal movement takes place, said barrel and said breech block or bolt carrier being formed the one with a longitudinal slot and the other with a projection engaging said slot and preventing rotary movement of the barrel during the relative longitudinal movement of the barrel and the breech block or bolt carrier.

3. In a firearm, the combination with a frame, a barrel and a breech block or bolt carrier sliding longitudinally in respect to said barrel and said frame, said barrel and breech block or bolt carrier having a limited common longitudinal movement and being adapted to be engaged with and disengaged from each other by a rotary movement, of means whereby a rotary movement of said barrel relative to said breech block or bolt carrier is effected to disengage said parts as the common longitudinal movement of said barrel and breech block or bolt carrier takes place, and a spring interposed between said frame and said breech block or bolt carrier in which energy is stored by the rearward movement of said breech block or bolt carrier and which returns both said breech block or bolt carrier and barrel to their initial positions.

4. In a firearm, the combination with a frame having a tubular seat, a breech block or bolt carrier comprising a tubular extension and a breech-bolt and free to slide in said seat and a barrel inclosed and movable within said tubular extension, of means whereby a rotary movement of said barrel relative to said breech block or bolt carrier is effected to disengage said parts as the common longitudinal movement of said barrel and breech block or bolt carrier takes place.

5. In a firearm, the combination with a frame and a movable breech block or bolt carrier, of a barrel having a limited rotary movement with respect to said frame, said barrel and breech block or bolt carrier having interlocking segmental ribs.

6. In a firearm, the combination of a frame having a tubular seat, a tubular breech block or bolt carrier mounted movably in said seat, and a barrel inclosed and movable within said tubular breech block or bolt carrier.

7. In a firearm, the combination of a frame having a tubular seat, a breech block or bolt carrier comprising a tubular extension and a breech-bolt and free to slide in said seat, and a barrel inclosed and movable within said tubular extension.

8. In a firearm, the combination of a frame having a forward, tubular extension, a breech block or bolt carrier free to slide in said extension and comprising itself a breech-bolt and a forward tubular extension, and a barrel inclosed within the tubular extension of

the breech block or bolt carrier, and connected at its front end to the forward extension of the frame.

9. In a firearm, the combination with a frame having a forward tubular extension provided near its front end with cam-slots, a breech block or bolt carrier free to slide within said tubular extension, and a barrel formed to engage said breech block or bolt carrier and having pins to engage said cam-slots.

10. In a firearm, the combination with a frame and a reaction-spring supported by said frame, of a breech block or bolt carrier free to slide in said frame and connected to said reaction-spring, and a barrel formed to engage said breech block or bolt carrier and having a cam slot and pin connection with said frame, whereby said barrel has a limited longitudinal and rotary movement to engage and disengage said breech block or bolt carrier.

11. In a firearm, the combination of a frame having a seat to receive a breech block or bolt carrier, a breech block or bolt carrier mounted to slide in said seat and having a chamber to receive the barrel, a barrel movably mounted in said chamber, said breech block or bolt carrier and barrel having segmental ribs and grooves for engagement, and a cam slot and pin connection between said barrel and said frame, whereby, as the breech block or bolt carrier is moved rearward the barrel is moved rearward with it and is rotated to release the breech block or bolt carrier, and as the breech block or bolt carrier is moved forward, the barrel is moved forward with it and is rotated to reëngage the breech block or bolt carrier.

12. In a firearm, the combination with a frame, a breech block or bolt carrier sliding in said frame and comprising a breech-bolt and a forward extension from said breech-bolt, a barrel movably mounted in said extension, means to limit the movement of the barrel, said extension of the breech block or bolt carrier having an opening in front of the breech-bolt, a cartridge holder and feeder supported in the frame beneath said breech block or bolt carrier, whereby, as the breech block or bolt carrier and barrel are moved rearward, the movement of the barrel is interrupted and a cartridge is fed into the opening of the breech block or bolt carrier in position for insertion into the barrel and on the forward movement of the breech block or bolt carrier is inserted by the breech-bolt into the barrel.

13. In a firearm, the combination of a longitudinally-movable breech block or bolt carrier, a hammer, a sear, a trigger, and a connecting-piece to transmit pressure from the trigger to the sear, said connecting-piece having a lug to bear upon the breech block or bolt carrier to hold said connecting-piece out of operative relation with said sear and to enter a recess in said breech block or bolt carrier to permit the connecting-piece to move into operative relation with said sear.

14. In a firearm, the combination of a sliding breech-bolt, a hammer cocked by the movement of the breech-bolt, a sear having a point to engage said hammer, a trigger to operate said sear, a latch freely movable to engage said sear-point and prevent its release from the hammer and to release said sear-point, and a spring acting upon said latch to hold it normally in engagement with the sear-point and yielding to permit its release.

15. In a firearm, the combination of a frame having a cartridge-magazine in the grip and having a slot in the rear of said grip, a hammer and a sear pivoted in said frame in rear of the grip, said sear having a point to engage said hammer, a trigger pivoted in front of the grip and provided with a connector to operate said sear, a latch pivoted in and projecting through said slot and freely movable to engage said sear-point and to release the same, and a spring acting upon said latch to hold it normally in engagement with the sear-point and yielding to permit its release.

16. In a firearm, the combination of a sliding breech-bolt, a hammer, a sear having a rearwardly-extending point to engage the hammer and a forward projection, a trigger, a connecting-piece to transmit pressure from said trigger to the forward projection of said sear, said connecting-piece being in operative relation with said breech-bolt whereby the end of said connecting-piece is moved by said breech-bolt out of the path of said projection in position to be engaged and held thereby when the sear returns to normal position after operation, to prevent a further movement of the sear until the trigger is released and pressed again.

This specification signed and witnessed this 17th day of October, A. D. 1896.

JOHN M. BROWNING.

In presence of—

MATTHEW S. BROWNING,

M. J. HALL.