(No Model.) 6 Sheets—Sheet 1.

J. M. BROWNING.

MAGAZINE FIREARM.

No. 552,864. Patented Jan. 7, 1896.

Fig. 1.

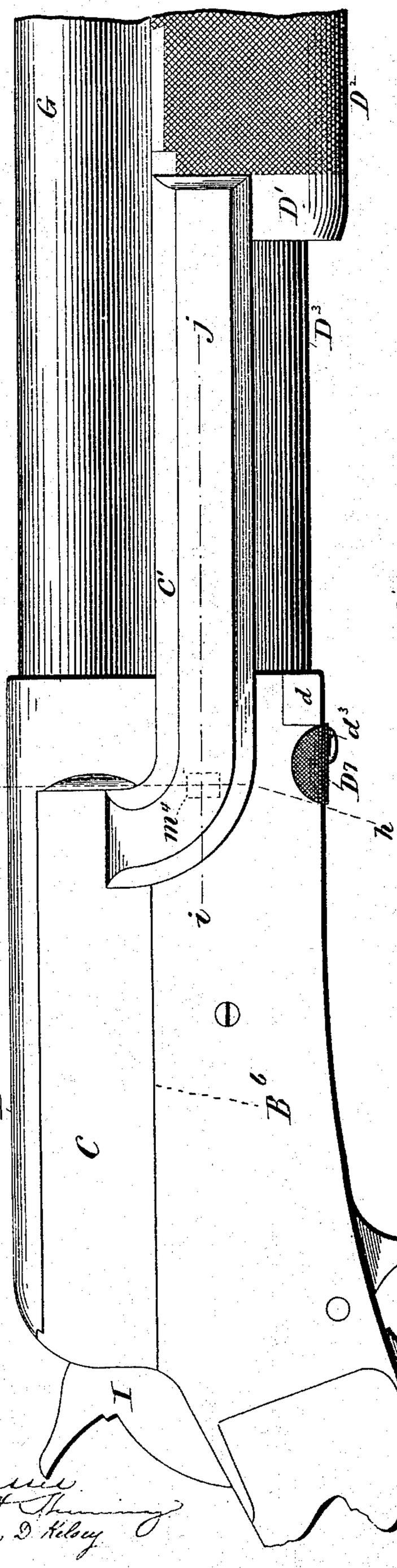


Fig. 2.

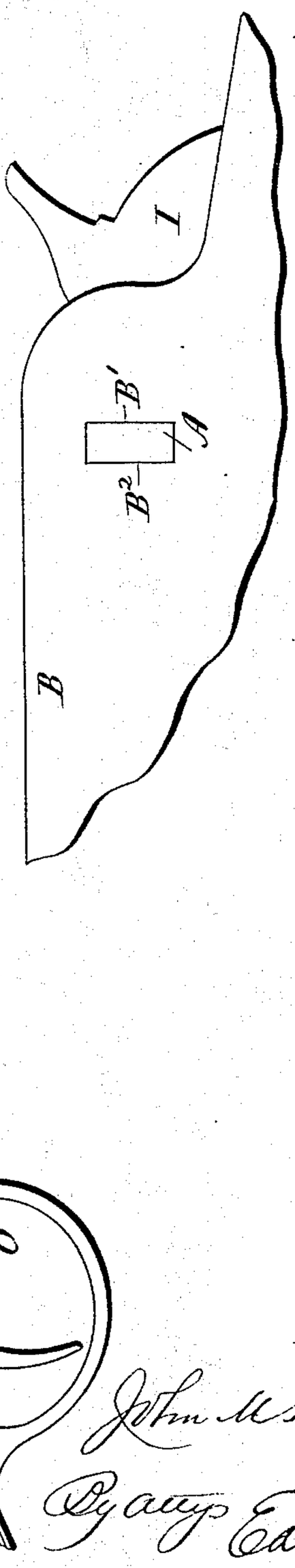
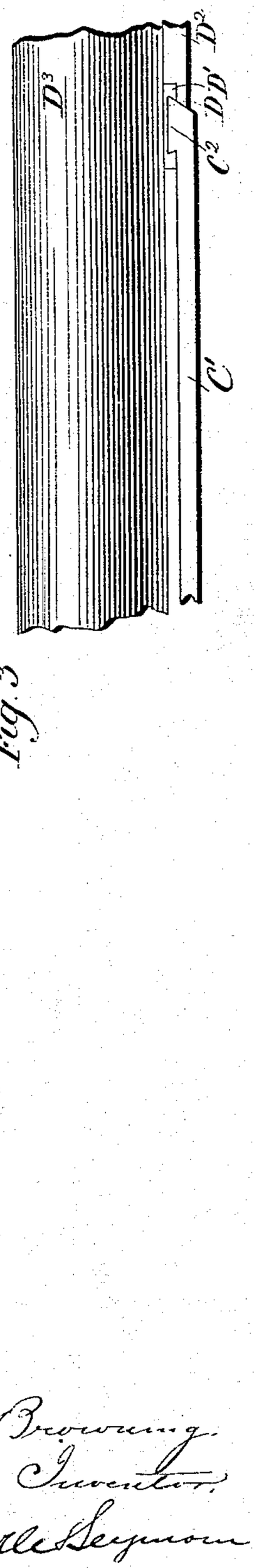


Fig. 3.



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(No Model.)

6 Sheets—Sheet 2.

J. M. BROWNING.

MAGAZINE FIREARM.

No. 552,864. Patented Jan. 7, 1896.

Fig. 4.

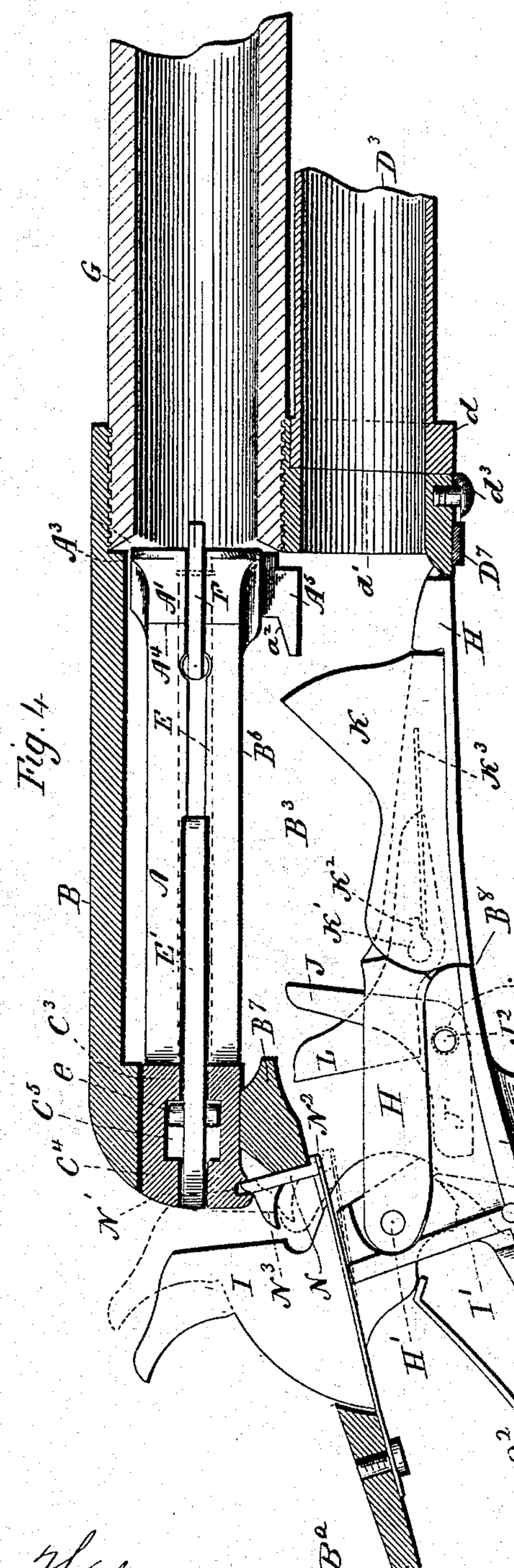


Fig. 18.

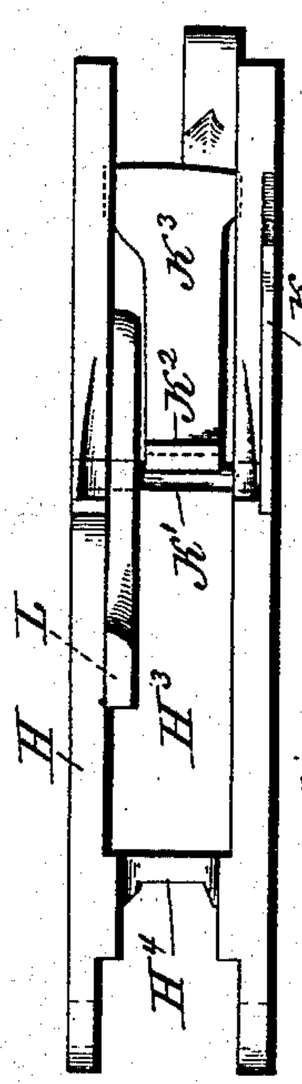
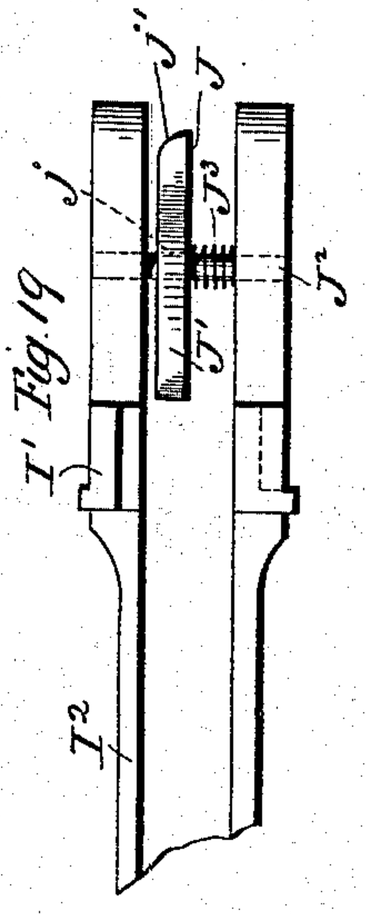


Fig. 19.



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6 Sheets—Sheet 3.

J. M. BROWNING.

MAGAZINE FIREARM.

No. 552,864. Patented Jan. 7, 1896.

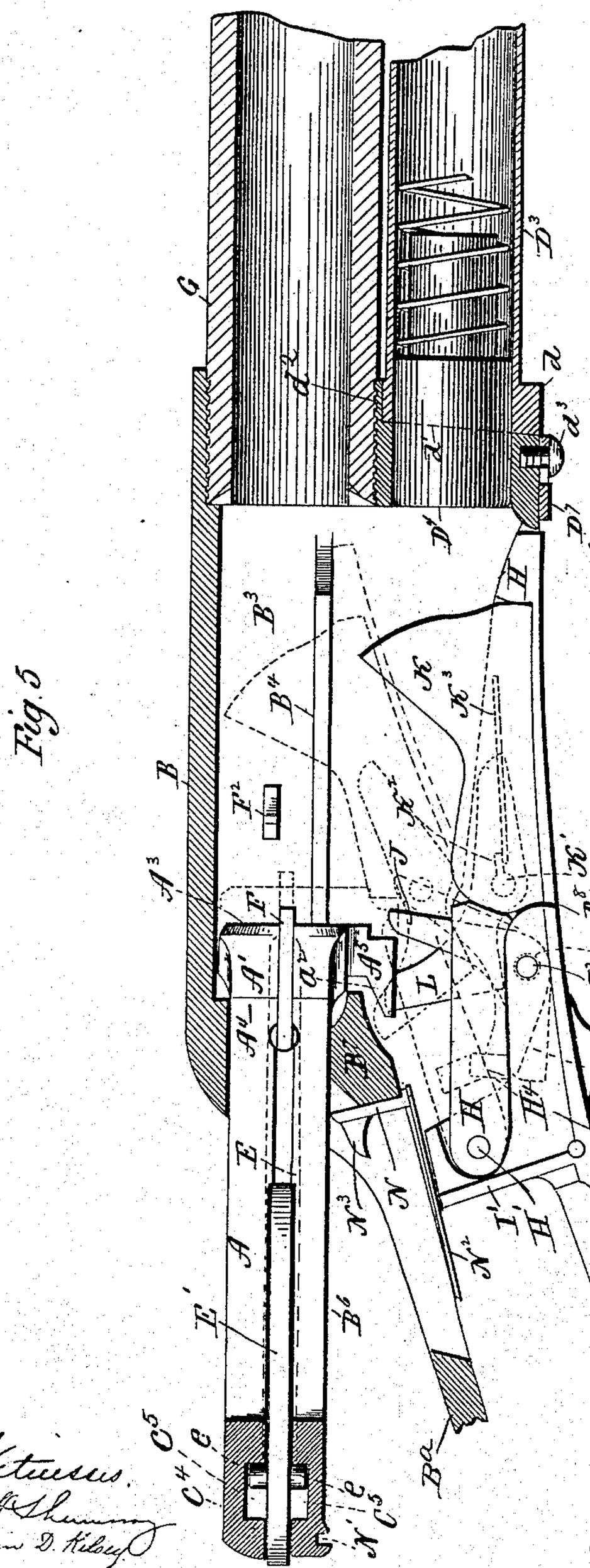

Fig. 5

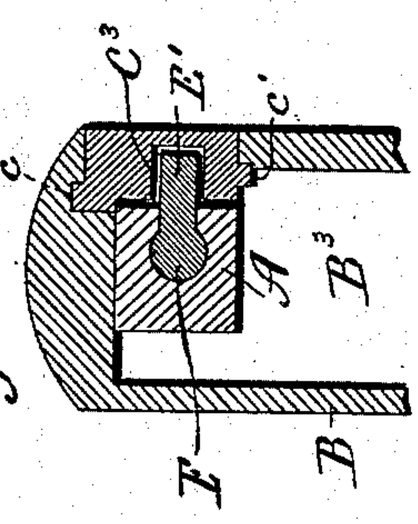

Fig. 6

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(No Model.)

6 Sheets—Sheet 4.

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MAGAZINE FIREARM.

No. 552,864. Patented Jan. 7, 1896.

Fig 7

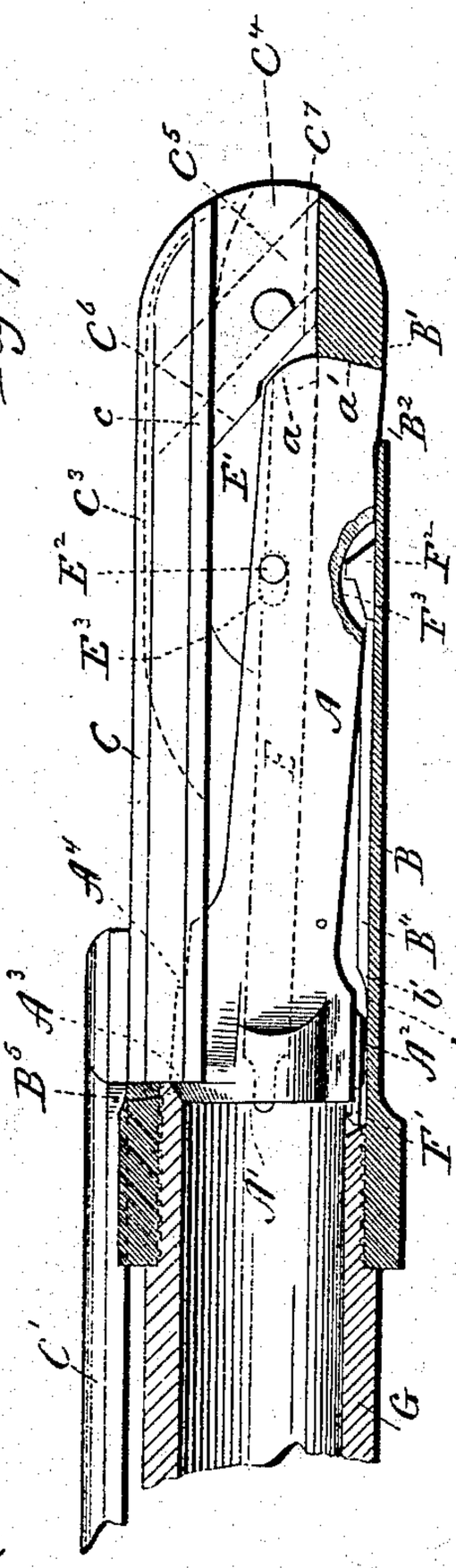


Fig. 8

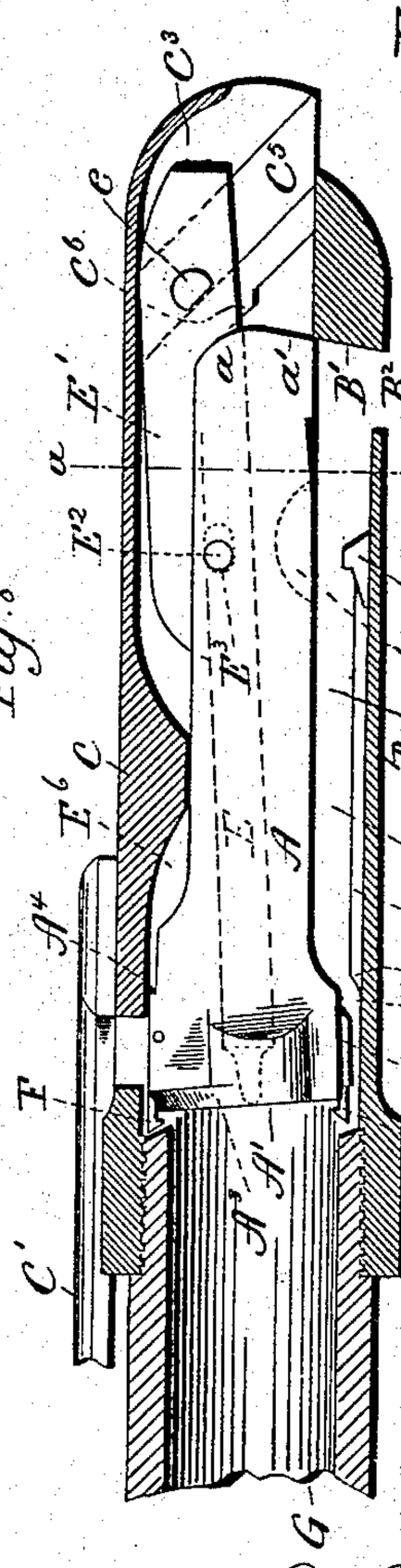
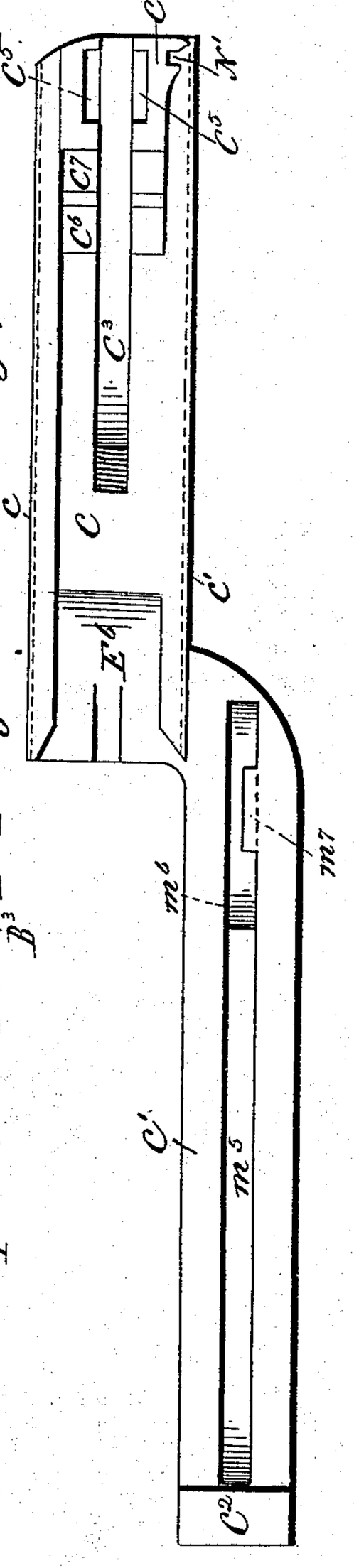


Fig. 9



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(No Model.)

6 Sheets—Sheet 5.

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MAGAZINE FIREARM.

No. 552,864. Patented Jan. 7, 1896.

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(No Model.)

6 Sheets—Sheet 6.

J. M. BROWNING.

MAGAZINE FIREARM.

No. 552,864. Patented Jan. 7, 1896.

Fig. 20

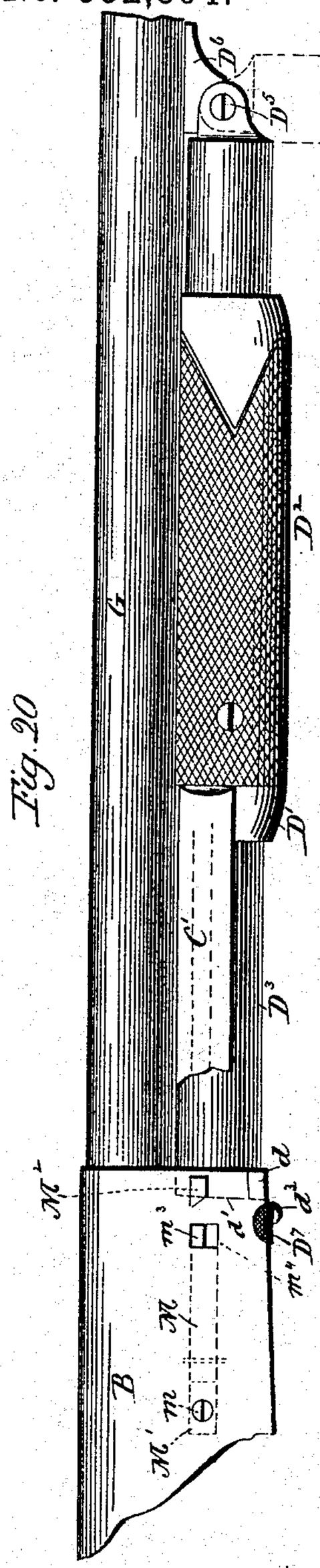


Fig. 21

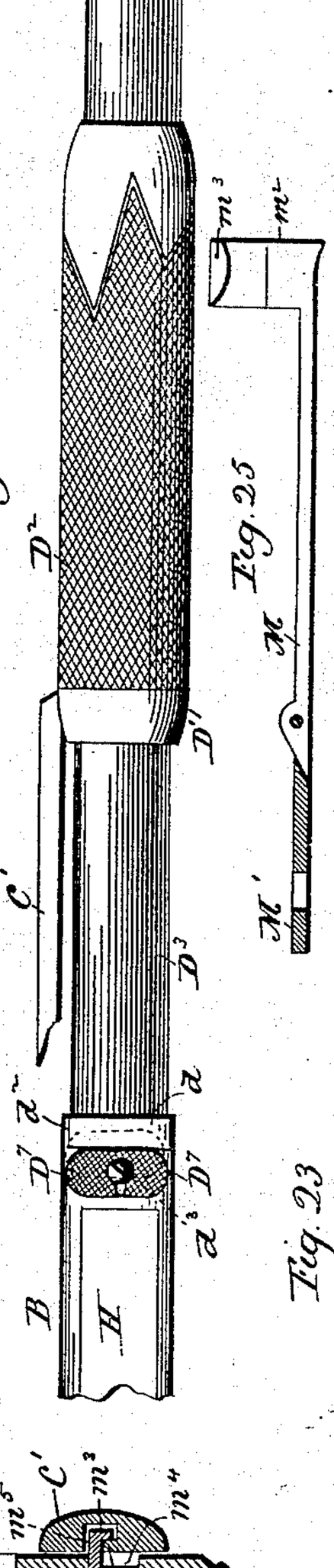


Fig. 25

Fig. 24

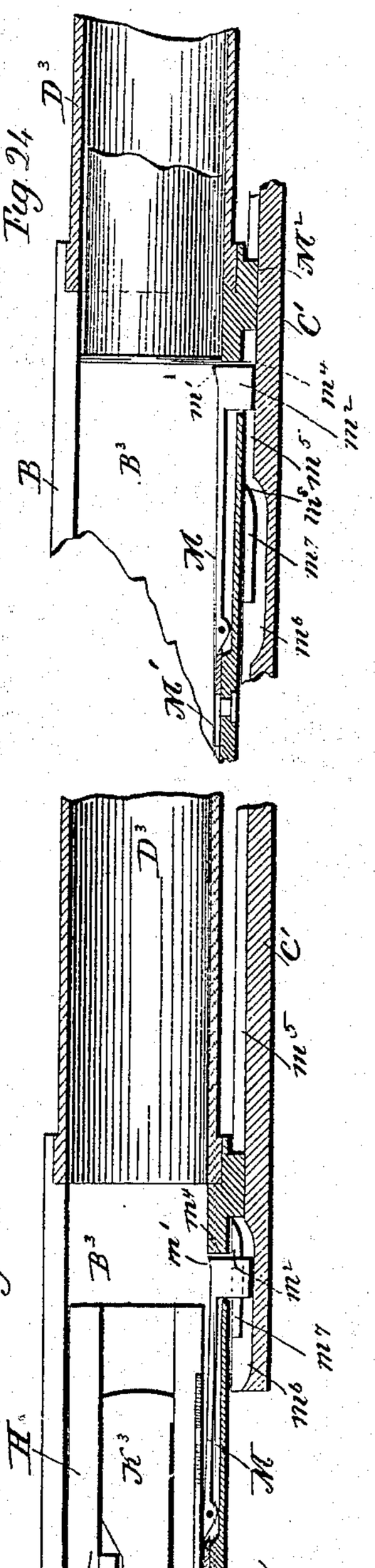
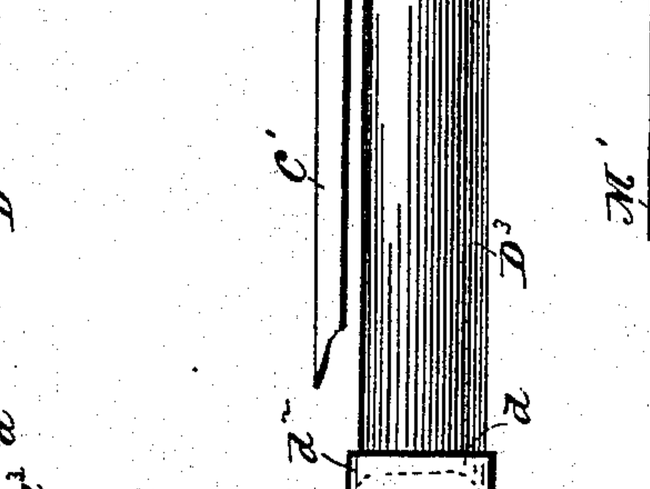


Fig. 23

Fig. 22



Witnesses,
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Lillian D. Kelsey

John M. Browning
Inventor.
By Atty
Earle Seymour

UNITED STATES PATENT OFFICE.

JOHN M. BROWNING, OF OGDEN, UTAH TERRITORY.

MAGAZINE-FIREARM.

SPECIFICATION forming part of Letters Patent No. 552,864, dated January 7, 1896.

Application filed November 19, 1894. Serial No. 529,258. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. BROWNING, of Ogden, in the county of Weber and Territory of Utah, have invented a new Improvement in Breech-Loading Magazine-Firearms; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a broken view in side elevation of the right side of an arm constructed in accordance with my invention; Fig. 2, a partial view of the left side of the arm, showing the clearance-opening formed in the frame to permit the breech-bolt to be moved into its closed position in front of the locking-abutment formed therein; Fig. 3, a broken plan view showing the connection of the forward end of the action-bar with the wearing-sleeve or bushing located in the rear end of the sliding supporting-handle which is mounted on the magazine; Fig. 4, a broken view of the gun in vertical longitudinal section, showing the parts in their closed positions; Fig. 5, a corresponding view showing the parts in their open positions; Fig. 6, a view in vertical transverse section on the line *a b* of Fig. 8, showing the frame, slide, breech-bolt, and firing-pin; Fig. 7, a broken view of the arm in horizontal section, looking down upon the breech-bolt, which is in its closed and locked position; Fig. 8, a corresponding view showing the breech-bolt in its closed position but unlocked; Fig. 9, a detached view in inside elevation of the breech-bolt slide and the action-bar; Fig. 10, a reverse plan view of the breech-bolt slide, action-bar, and breech-bolt; Fig. 11, a view in vertical transverse section on the line *c d* of the preceding figure; Fig. 12, a detached view of the breech-bolt in elevation, looking at the right side thereof; Fig. 13, a corresponding view of the breech-bolt looking at the left side thereof; Fig. 14, a corresponding view of the bolt in front elevation; Fig. 15, a detached plan view of the firing-pin; Fig. 16, a similar view of the firing-pin in side elevation; Fig. 17, a view of the firing-pin in transverse section on the line *e f* of Fig. 15; Fig. 18, a detached plan view of the carrier; Fig. 19, a detached broken plan view of the forward end of the trigger-plate; Fig. 20, a broken view in side elevation showing the pivotal connection of the forward end of the magazine with the gun-barrel and the tapered recess located in the forward end of the frame to receive the beveled head located at the free rear end of the magazine; Fig. 21, a reverse plan view of the parts shown in the preceding figure; Fig. 22, a view in vertical transverse section on the line *g h* of Fig. 1; Fig. 23, a broken view in horizontal longitudinal section on the line *i j* of Fig. 1, through the frame, magazine, and the action-bar, showing the cartridge-stop in its retired position, which it takes when the action-bar is moved forward into its closed position; Fig. 24, a similar but less comprehensive view showing the cartridge-stop thrown into its operative position, which it assumes very soon after the action-bar begins its rearward movement for opening the gun; Fig. 25, an enlarged detached reverse plan view in horizontal longitudinal section of the hinged cartridge-stop, the joint of which is shown in section.

My invention relates to an improvement in breech-loading firearms, the object being to produce a compact, reliable, safe, durable and effective arm composed of comparatively few parts and not liable to derangement.

With these ends in view my invention consists in a breech-loading magazine-firearm having a longitudinally-movable breech-bolt slide, and a breech-bolt actuated by the said slide in longitudinal and lateral movement, its rear end being moved laterally for locking it in its closed position and for unlocking it therefrom, and its forward end being moved laterally for coupling it with and uncoupling it from the forward end of the said slide, which has longitudinal movement independent of it.

My invention further consists in the employment of a firing-pin mounted in a longitudinally-movable breech-bolt for connecting the same for lateral movement with the rear end of a longitudinally-movable breech-bolt slide.

My invention further consists in a breech-bolt slide provided at its rear end with an ex-

tension which engages with the rear end of a laterally-movable breech-bolt for pushing the same into its locked position.

My invention further consists in a breech-bolt constructed at its forward end with a head which coacts with fixed points in the frame for moving the said head and hence the bolt to the right and to the left for coupling the bolt with and uncoupling it from the longitudinally-movable slide by means of which it is moved back and forth.

My invention further consists in a pivotal bell-crank lever located beneath a carrier and extending upward through the same into position to be engaged by a longitudinally-movable breech-bolt for operating it and lifting the carrier.

My invention further consists in a pivotal fender made independent of the carrier, and interposed between the same and an ejection-opening formed in one of the side walls of the frame.

My invention further consists in a lifting-lever pivotally mounted in the carrier and engaging with a portion of the frame and with the forward end of the trigger-plate for being operated to lift the cartridges as the carrier is lifted.

My invention further consists in a cartridge-stop which is positively operated inward and outward through the medium of the action-bar.

My invention further consists in a breech-loading magazine-firearm having certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In carrying out my invention, as herein shown, I employ a breech-bolt A, located in the frame B of the gun and constructed and arranged so as to be not only reciprocated longitudinally back and forth therein, but also so as to be laterally movable therein, its rear end having more range of lateral movement than its forward end. By the term "frame" as used above I mean to include all of the gun-frame except the upper tang B^a and the lower tang B^b thereof. The said breech-bolt is partially supported by the frame and partially supported by a breech-bolt slide C, by means of which it is longitudinally reciprocated and through and by which it is moved laterally. The said breech-bolt slide is mounted in the frame, in which it is confined to longitudinal movement, being provided upon its upper and lower faces with longitudinal ribs *c* and *c'*, Figs. 6 and 11, which take into suitable grooves formed in the frame for their reception. To adapt the frame to receive the breech-bolt slide its right-hand side wall is cut away to form a longitudinal slot C^a, Fig. 1, which opens laterally into the chamber formed in the frame.

An action-bar C', connected at its rear end with the forward end of the breech-bolt slide, is provided upon the inner face of its forward end with a vertically-arranged dovetail rib C^2, Fig. 3, taking into a dovetail groove D, formed in a lateral enlargement of the inner end of a metal bushing or wearing-sleeve D', secured within the inner end of a sliding supporting-handle D^2, arranged to slide back and forth upon the tubular magazine D^3. To operate the breech-bolt, the said handle is grasped and moved back and forth upon the magazine, whereby the breech-bolt slide C, and hence the breech-bolt A, are actuated in longitudinal movement through the medium of the said action-bar connecting the breech-bolt slide and the sliding supporting-handle.

The firing-pin E is employed for loosely coupling the breech-bolt and slide together, the said pin being thereto furnished at its rear end with a lateral flange E', extending to the right and entering a deep horizontal slot C^3, formed in the inner face of the said slide, Figs. 6, 7 and 8, which has an inward extension C^4 formed at its rear end, through which the said slot extends.

The firing-pin, it will be observed by reference to Figs. 7 and 8 of the drawings, is not located parallel with the longitudinal axis of the breech-bolt, but is inclined to the said axis, its flange E' emerging laterally from the rear portion of the breech-bolt, so as to enter the slot C^3 in the said breech-bolt slide, and the rear end of its flange projecting beyond the rear end of the breech-bolt so as to enter that portion of the said slot C^3 contained in the said extension C^4 of the breech-bolt slide.

The firing-pin and breech-bolt are pivotally connected by means of a vertically-arranged coupling-pin E^2, located in the bolt, and passing through an elongated slot E^3, formed in the flange E' of the pin, which is therefore free to move independently of the bolt within the limits of the length of the said slot E^3, while the firing-pin and breech-bolt slide are connected by means of a vertically-arranged operating-stud *e*, located in the extreme rear end of the said flange E' extending above and below the upper and lower faces thereof, and taking into two corresponding oppositely-arranged grooves C^5 C^5, forwardly inclined with respect to the said slide, located in the lateral extension C^4, and leading [illegible] of the upper and lower walls of the slot C. The inner end of the said extension is shaped to form an operating-bevel C^6, Fig. 10, which coacts with the beveled inner corner *a* of the rear end of the breech-bolt to force the same from right to left for locking it in its closed position. The said end of the extension is also shaped to form an inclined seat C^7, upon which the said corner of the breech-bolt rests when the same is both closed and locked. The breech-bolt is thus moved longitudinally back and forth by the breech-bolt slide, while its rear end is moved from right to left directly by the said slide and from left to right by the firing-pin, which is thereto operated by the said slide. The rear end of the bolt also has a locking-face *a'*, which, when the said end of the bolt is swung

from right to left, coacts with a locking-abutment B′, formed in the left-hand side of the rear end of the frame, also having a clearance-opening B^2, formed in it at a point directly in front of the said abutment, as clearly shown in Figs. 2, 7 and 8.

At its forward end the breech-bolt is enlarged to form a head A′, which though but slightly narrower in width than the width of the upper portion of the receiver-chamber B^3 is still enough narrower than the same to admit of a slight lateral movement of the said head, and hence the forward end of the bolt therein. To receive the right-hand side of the said head the forward end of the breech-bolt slide is constructed with a recess E^6, in which the said end of the bolt is in part supported. The forward end of the bolt is moved from left to right by means of a horizontally arranged outwardly-projecting operating-shoulder A^2 located upon the left-hand side of the said head and coacting with a similarly-arranged long guide-rib B^4, projecting inwardly into the receiver-chamber B^3, from the left-hand wall of the frame, the said rib being cut away at its forward end to form a clearance-space *b* for the shoulder A′ to enter and having its said end beveled at *b′*, as clearly shown in Figs. 7 and 8. The said head, and hence the forward end of the bolt, is moved from right to left just as the bolt is passing into its fully-closed position by means of a bevel A^3, formed at the upper right-hand corner of the said head, as shown in Fig. 14, and by means of a coacting bevel B^5 formed in the frame at the upper right-hand corner of the forward end of the receiver-chamber B^3, as shown in Fig. 7. The said head is moved from right to left and left to right by means of the instrumentalities described, for the purpose of disconnecting the forward end of the breech-bolt from and connecting the said end of the bolt with the forward end of the breech-bolt slide. For the purpose of connecting the forward end of the breech-bolt with the forward end of the breech-bolt slide a coupling-shoulder A^4 is formed in the right-hand side of the head A′ of the bolt by notching the same, as clearly shown in Fig. 7, the said shoulder being engaged by the inner corner *c*, Fig. 8, of the extreme forward end of the breech-bolt slide.

In illustration of the operation of the breech-bolt slide and breech-bolt let it be supposed that both are in their closed and locked positions. Now when the said slide begins to move back, the inclined forward walls of the grooves C^5 C^5 in the extension C^4 at its rear end will engage with the vertically-arranged operating-stud *e*, located in the flange E′ of the firing-pin E, and draw the same back without stirring the bolt until the forward end wall of the elongated slot E^3 in the flange E′ of the firing-pin brings up against the coupling-pin E^2 in the bolt, the rear end of which from this moment begins to move from left to right under the drawing action of the firing-pin, which is correspondingly moved by the drawing action of the forwardly-inclined forward walls of the said grooves C^5 C^5 before mentioned. The breech-bolt is thus unlocked by the swinging of the locking-face *a′* at its rear end away from the locking-abutment B′, formed in the left-hand side of the rear end of the frame. The breech-bolt having thus been moved at its rear end from left to right and unlocked is now free to be moved back into its open position by the breech-bolt slide of the straight longitudinal movement whereof it then partakes. Just as soon as the slide begins to move back, the bevel A^3 formed on the right-hand side of the head A′ located at the forward end of the bolt clears the bevel B^5 formed on the right-hand side of the forward end of the receiver-chamber B^3. As soon as these bevels have cleared each other the rear end of the operating-shoulder A^2, located on the left-hand side of the said head, engages with the bevel *b′* formed at the forward end of the guide-rib B^4 projecting into the left-hand side of the said receiver-chamber. The breech-bolt continuing to move rearward, the said shoulder rides upon the said bevel, whereby the forward end of the bolt is shifted from left to right, whereby its coupling-shoulder A^4 is moved directly in front of the inner corner *c* of the extreme forward end of the breech-bolt slide. The bolt now moves rearward with the said slide, its forward end being maintained in its deflection to the right by means of the guide-rib B^4 acting on the shoulder A^2. The bolt and slide thus move into their fully-open positions. At the beginning of the closing movement of the bolt and slide the latter moves forward alone at first, until the corner *c* of its forward end abuts against the coupling-shoulder A^4 before mentioned, after which the bolt and slide move steadily forward until the bevel A^3 of the bolt engages with the bevel B^5 of the frame B, with the effect of shifting the forward end of the bolt from right to left, which is permitted by the clearance-space *b* provided for the shoulder A^2 in front of the guide-rib B^4, the forward end of which the said shoulder has by this time passed. The described lateral movement of the forward end of the bolt from right to left is just sufficient to clear the coupling-shoulder A^4 of the bolt from the forward end of the breech-bolt slide, which has now moved the bolt forward as far as it will go. The operating-bevel C^6 located at the base of the forward end of the extension C^4 of the slide now engages with the beveled inner corner *a* of the rear end of the breech-bolt and moves the same laterally from right to left, whereby the locking-face *a′* at the said end of the breech-bolt is swung in front of the locking-abutment B′ of the frame B and a portion of the bolt swung into the clearance-opening B^2 formed in the said frame B in front of the said abutment. Then, just as the bolt is coming into its fully-closed position, the operating-bevel C^6 passes the inner corner *a* of the bolt and the inclined

seat C^7 formed upon the inner end of the said extension is presented for engagement with the bolt, as shown in Fig. 7, and prevents the rear end of the bolt from moving from right to left, and hence out of its locked position. It will thus be seen that the bolt has longitudinal movement with the slide and that its rear end has lateral movement independent thereof for locking it in its closed position in the frame, and that its forward end has lateral movement independent of its rear end for coupling it with and uncoupling it from the forward end of the slide.

The head A′ at the forward end of the breech-bolt slide is furnished with an extractor F, located at the right, and an extractor F′, located at the left, the latter co-operating with an abutment-block F^2, against which the heads of the cartridges abut, and which projects into the receiver-chamber B^3 from the left-hand wall thereof, the said block virtually forming an ejector against which the cartridges are impinged as the breech-bolt is retracted with a cartridge in the grip of the extractors. The clearance-slot F^3 formed in the left-hand side of the bolt is provided for clearing the abutment or ejector-block F^2 when the breech-bolt is in its closed and locked position. The head of the breech-bolt is constructed on its left-hand side with a clearance-slot *f*, Fig. 13, for clearing the abutment or ejector-block F^2 when the breech-bolt is drawn back into its open position. I may mention here that the extractors F and F′ may be of any approved construction. The forward end of the breech-bolt is also provided with an operating-finger A^5, depending from its head A′, having its rear end undercut, as at a^2, and beveled, as at a^3. The function of this finger will be set forth later on.

The carrier II of my improved gun is bifurcated at its rear end, Fig. 18, to receive the shank of the hammer I and to embrace the upright I′ of the trigger-plate I^2, Fig. 19, the carrier and hammer being hung upon a pivot H′, passing through the said bifurcated rear end of the carrier, through the shank of the hammer, and through the said upright I′ of the trigger-plate I^2, the forward end of which fits into the lower face of the rear end of the frame. The said carrier has a long clearance-opening H^3, Fig. 18; formed in it to the rear of its longitudinal center for the upward passage through it of the upper arm J of a bell-crank or elbow lever, the lower arm J′ of which is located in a longitudinal groove I^3, Fig. 19, formed in the trigger-plate, and engages with the under face of a web or bridge H^4, located at the rear end of the carrier, as seen in Fig. 18. The said bell-crank lever is hung upon a horizontal pivot J^2 mounted, as shown in Fig. 19, in the forward end of the trigger-plate. The opening *j*, Fig. 4, formed in the said bell-crank lever for the reception of the pivot J^2, is enough larger in diameter than the same to permit the lever to tip laterally from left to right against the tension of the spiral spring J^3, mounted on the pin and interposed between the right-hand face of the lever and the adjacent wall of the recess I^3 in the trigger-plate, as shown in Fig. 19. The said spring is provided for holding the lever in its normal or vertical position, from which it is deflected from left to right against the tension of the spring to permit the operating-finger A^5 depending from the head A′ at the forward end of the breech-bolt to push it aside during the rearward movement of the said bolt, the left-hand face of the upper end of the upper arm J of the said bell-crank lever being beveled, as at *j*′, Fig. 19, to coact with the bevel a^3 formed upon the right-hand corner of the rear end of the said depending finger, as shown in Fig. 10. When the breech-bolt moves forward, the square forward end of the operating-finger A^5 abuts against the square rear edge of the upper arm J of the said bell-crank lever, which is then rocked forward on the pivot or pin J^2. The lower arm J′ of the lever is thus raised against the web or bridge H^4 of the carrier, with the effect of lifting the same, so that the forward end of the carrier rises from the plane of the magazine D^3 to the plane of the gun-barrel G.

It will be understood that the carrier is lifted as described at the beginning of the forward movement of the breech-bolt, and is maintained in its elevated position until the breech-bolt has entered the forward end of the cartridge lifted by the carrier into the gun-barrel, after which the operating-finger A^5 of the breech-bolt passes forward of and clears the upper arm J of the said bell-crank lever and thus permits the carrier to drop back into its depressed position of readiness to receive another cartridge from the magazine. When, on the other hand, the breech-bolt is moving back into its open position the bevel a^3 of its depending finger A^5 engages with the bevel *j*′ of the upper arm J of the bell-crank lever, which yields laterally, tipping from left to right against the tension of the spring J^3, which immediately rights the lever after the said operating-finger has passed by and to the rear of it and thereafter holds it in its righted position, in which the square forward edge of the said finger A^5 engages with the square rear edge of the said arm, when the breech-bolt is again moved forward.

For the purpose of preventing the chance escape of the cartridges from the ejection-opening B^6, formed in the right wall of the frame B, when the cartridges are being transferred from the magazine to the barrel of the gun, and also for assisting in guiding the cartridges into the gun-barrel, I provide the carrier upon its right-hand side with a fender K, consisting of a vertically-arranged thin plate of metal rigidly secured at its inner end to a horizontal arbor K′, the ends of which are journaled in the carrier and which is provided with a short forwardly-projecting finger K^2, which engages with the free inner end of a

flat sheet-metal spring K^3, the forward end of which is rigidly secured to the bottom of the forward end of the carrier, with which the fender is thus pivotally and yieldingly connected, so as to stand above the bottom of the forward end thereof. The breech-bolt slide gradually closes the said ejection-opening B^6 from the beginning to the end of its forward movement, when it completely closes the said opening, but the carrier is lifted at the beginning of the forward movement of the said slide, and hence before the said opening is closed to any extent thereby, wherefore the desirability of using the fender to prevent the accidental escape of the cartridges through the said opening before the slide has moved far enough forward to prevent their escape and for assisting in guiding the cartridges into the gun-barrel. The fender has still another function, for its upper edge is engaged by the slide as the same is closed, whereby the slide acts through the medium of the fender and the spring thereof in holding the carrier down in proper position and insures its being depressed when the slide is closed.

For the purpose of lifting the rear ends of the cartridges above the floor of the carrier and thus assisting in their introduction into the gun-barrel, I provide the carrier with a lifting-lever L, which is hung upon the horizontal arbor or pin K′ of the fender K. The lower portion of the rear end of this lever rests upon the forward end of the trigger-plate I^2, while the upper portion of its rear end will engage with the web B^7 of the frame in such a manner that when the carrier and hence the lever are lifted, the latter will be turned on its center and its forward end raised above the floor of the carrier, with the effect of lifting the rear ends of the cartridges. When in its depressed or normal position, the forward end of the carrier occupies the opening B^8, formed in the bottom of the frame to permit the charging of the magazine with cartridges, which are fed into the frame through the said opening and pushed forward into the rear end of the magazine D^3, one by one by hand, the carrier being forced upward each time so as to permit the cartridges to pass under it into the rear end of the magazine, which is furnished with a spring-actuated follower D^4 of any approved construction.

For preventing the cartridges from entering the frame from the magazine, except one at a time as required, I employ a cartridge-stop M, Figs. 23, 24, and 25, pivotally secured at its rear end to a small plate M′, rigidly secured by means of a screw m within the right wall of the frame, which is longitudinally recessed to receive the said stop and plate, which are pivoted together on the knuckle principle, and so as to limit the inward movement of the stop, which is constructed upon the inner face of its forward end with a stop-shoulder m' which, when in its operating position, engages the heads of the cartridges so as to prevent the same from emerging from the magazine. The outer face of the free forward end of the stop is furnished with an outwardly-projecting operating-arm m^2, having a depending finger m^3, the ends of the inner face whereof are outwardly beveled, as seen in Fig. 25. The said arm projects outward through an opening m^4, Figs. 20 and 22, formed in the right wall of the frame and into a long groove m^5 formed in the inner face of the action-bar C′, and curved outwardly at its rear end, as at m^6, to clear a draw-flange m^7, the outer face of the forward end of which is beveled, as at m^8, and which stands in the plane of the long groove m^5. Supposing the action-bar to be in its fully-closed position, the depending finger m^3 of the arm m^2 of the stop will be located in the outwardly-curved portion m^6 of the groove m^5 in the action-bar, as shown in Fig. 23. Now when the said bar is moved rearward the curved forward end of the curved portion m^6 of the groove will force the finger m^3 inward, and hence the arm m^2, whereby the stop will be caused to move inward into the path of the cartridges, as shown in Fig. 24, and will be retained in this position by the engagement of the said finger with the outer wall of the straight portion of the groove m^5 in the bar. When, on the other hand, in the closing movement of the bar the same approaches its closed position, the bevel m^8 at the forward end of the draw-flange m^7 will engage with the beveled inner face of the rear end of the finger m^3 and draw the said finger outward into the curved portion of the groove and outside of the said draw-flange, whereby the stop will be positively swung out of the path of the cartridges as they emerge from the magazine. Then when the bar is moved rearward the curved forward end of the curved portion m^6 of the groove will force the stop inward again. It will thus be seen that I do not depend upon the action of a spring for either movement of the stop, but that under my construction the stop is positively moved into its operative position and positively moved into its retired position, securing perfect reliability in the operation of the stop.

For preventing the breech-bolt slide from being deflected up or down I provide the frame with a guiding-lug M^2, Figs. 20 and 23, which is located on the right hand of the frame B at the extreme forward end thereof and enters the straight portion of the long groove m^5, formed in the inner face of the action-bar, which is thereby guided and prevented from being moved up or down, except as it is disengaged from the said lug.

Another feature of my invention is the utilization of the magazine as a lever for screwing the barrel into the frame and unscrewing it therefrom, and also as a wedge for tightening the barrel in the frame B. The magazine D^3 is pivotally connected by means of a screw-stud D^5 with a heavy lug D^6 depending from the lower face of the gun-barrel G. The rear end of the magazine is fur-

nished with a head *d*, having its rear or outer face beveled or inclined, as at *d'*, the said head being adapted to be entered into a deep recess d^2, Fig. 5, formed to receive it in the lower face of the forward end of the frame and having its rear wall forwardly inclined. To secure the barrel to the frame the breech-bolt is fully opened and the rear end of the magazine disconnected from the frame, so that it may be used as a handle-lever. The gun-barrel is then inserted into the frame with the magazine turned one-quarter to the left and turned to the right as far as it will go, using the magazine as a lever for turning it. Then the follower D^4 of the magazine is pushed inward even with the rear end thereof and the magazine closed in, so that its head *d* will enter the recess d^2 in the frame. When the said head has been pushed home in the said recess, the locking-plate D^7 is pushed forward to engage with the lower edge of the head for holding the magazine in its closed position. The said locking-plate, Figs. 16 and 17, is provided with a central slot, permitting it to be moved back and forth, and is connected with the frame by means of a screw d^3. To remove the barrel from the frame the plate D^7 is pushed back so as to free the rear end of the magazine, which is then turned down so as to form a lever, by means of which the barrel is turned one-quarter turn from right to left, after which the barrel may be removed. By the construction just above described the operation of removing and applying the barrel is made very easy, while at the same time the connection of the barrel with the frame is made exceedingly firm.

The turning of the barrel a quarter-turn in one direction for connecting it with the frame and a quarter-turn in the opposite direction for disconnecting it therefrom, as above described, assumes that it as well as the frame has suitable interrupted screw-threads which are too well known to require illustration or detailed description. The magazine would have the same value as a lever, however, if the barrel and frame had continuous threads requiring the complete rotation of the barrel.

For locking the breech-bolt slide, and hence the breech-bolt, in their closed positions I employ a safety-catch N, mounted in the web or bridge B^7 of the frame B at a point just in front of the hammer, and slightly inclined rearward, its upper end being adapted to take into a notch N' formed transversely in the extreme rear end of the extension C^4 of the breech-bolt slide C, and its lower end being engaged with a spring N^2, secured to the upper tang B^a of the gun-frame, which also includes the frame B and the lower tang B^b. The upper end of this catch is furnished with a rearwardly-projecting finger N^3, which is engaged by the hammer I, when the same is thrown forward, in such a manner as to depress the catch and clear its upper end from the notch N' in the breech-bolt slide, but the hammer depresses the catch in the manner set forth only when in its closed position, so that when it is half-cocked or full-cocked the breech-bolt slide and breech-bolt are firmly held in their locked positions by the catch. When the hammer is down, however, as it will be after the firing of the gun, it holds the catch down, so that the same does not interfere with the action of the breech-bolt slide in automatically throwing the hammer back to its full-cocked position. The catch thus prevents the manipulation of the gun except under certain conditions, which are ordinarily present only when the same has been fired or the hammer let down.

The trigger O, guard O', hammer-spring O^2, and other instrumentalities not set forth may be considered to be of any approved construction.

Inasmuch as the operation of the gun has been so fully set forth in connection with the description of its construction I deem it unnecessary to describe its operation further.

It is apparent that in carrying out my invention some changes in the construction herein shown and described may be made, and I would therefore have it understood that I do not limit myself to the exact construction herein set forth, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a breech-loading magazine gun, the combination with a frame having a chamber formed in it and also having one of its side walls cut away to form a longitudinal slot which opens laterally into the said chamber, of a longitudinally movable breech-bolt slide located in the said slot and movable back and forth therein, and a breech-bolt located in the said chamber and actuated by the said slide in longitudinal and lateral movement, and connected at its rear end therewith, its rear end being moved laterally for engaging it with the frame to lock it in its closed position and for disengaging it from the frame to unlock it, and its forward end which is disconnected from the slide, being moved laterally for coupling it with and uncoupling it from the forward end of the slide which has longitudinal movement independent of it, substantially as described.

2. In a breech-loading magazine gun, the combination with a frame having a locking abutment at its rear end, and fixed breech-bolt-operating points at its forward end of a longitudinally movable breech-bolt slide mounted in the said frame, and a longitudinally and laterally movable breech-bolt connected with the said slide for actuation thereby, its rear end being moved by the slide into and out of engagement with the said abutment, and its forward end being constructed to coact with the said fixed points whereby it is moved laterally from left to right and from

right to left for being coupled with and uncoupled from the forward end of the said slide, which has longitudinal movement independent of it, substantially as described.

3. In a breech-loading magazine gun, the combination with the frame thereof, of a longitudinally and laterally movable breech-bolt and a longitudinally movable breech-bolt slide mounted in the said frame, and a firing-pin mounted in the breech-bolt, and connected at its rear end with the slide which moves it and hence the rear end of the breech-bolt laterally, substantially as described.

4. In a breech-loading magazine gun, the combination with the frame thereof, of a longitudinally and laterally movable breech-bolt, a longitudinally movable breech-bolt slide mounted in the frame and having a forwardly inclined groove in its rear end, and a firing-pin located in the breech-bolt, and provided at its rear end with a stud entering the said groove, substantially as set forth, and whereby, through the medium of the said stud and groove, the rear ends of the firing-pin and breech-bolt are moved laterally in one direction, substantially as described.

5. In a breech-loading magazine-gun, the combination with a frame, constructed at its rear end with a locking abutment, of a longitudinally and laterally movable breech-bolt adapted at its rear end to co-act with the said abutment, a longitudinally movable breech-bolt slide mounted in the frame, and a firing-pin located in the breech-bolt and connected with the said slide which imparts lateral movement to the rear end of the pin and hence the breech-bolt, whereby the bolt is moved out of range with the said locking abutment of the frame, substantially as set forth.

6. In a breech-loading magazine gun, the combination with a frame, of a longitudinally movable breech-bolt slide mounted therein, and provided at its rear end with an extension having its inner end beveled, a longitudinally and laterally movable breech bolt, the rear end of which is engaged by the said bevel, whereby the rear end of the bolt is moved laterally into its locked position, substantially as described.

7. In a breech-loading magazine gun, the combination with a frame, of a longitudinally movable breech-bolt slide mounted therein, a longitudinally and laterally movable breech-bolt, a firing-pin located therein and connected at its rear end with the said slide, which is adapted at its rear end to engage directly with the bolt for moving the same laterally, substantially as described, and whereby the bolt is moved longitudinally by the slide, and laterally in one direction by the slide acting through the pin, and laterally in the other direction by being directly engaged thereby.

8. In a breech-loading magazine gun, the combination with a frame having a locking abutment at its rear end, of a longitudinally movable breech-bolt slide mounted therein, and having its rear end provided with an inward extension having an operating bevel, a longitudinal slot and forwardly inclined grooves, a breech-bolt, and a firing-pin mounted therein and projecting at its rear end therefrom into the said slot, and carrying a stud entering the said grooves, substantially as described, and whereby the rear end of the bolt is moved laterally in front of the said abutment by the direct engagment with it of the said bevel, and whereby also the said end of the bolt is moved laterally away from the said abutment by the firing-pin which is moved laterally by the co-action of the said grooves and stud when the slide is moved rearward.

9. In a breech-loading magazine gun, the combination with a frame provided with a longitudinal guide-rib extending inward from the left wall of its chamber, of a longitudinally and laterally movable breech-bolt, the forward end of which is furnished with an outwardly projecting operating shoulder located on its left side to co-act with the said guide-rib, and with a coupling shoulder located on its right side, and a longitudinally movable breech-bolt slide mounted in the frame, and engaging at its forward end with the coupling shoulder of the breech-bolt when the same is moved from left to right by the action of the said operating shoulder and rib, the said coupling shoulder being cleared from the forward end of the slide by the movement of the forward end of the breech-bolt from right to left as the same reaches its fully closed position and engages with the receiver, substantially as described.

10. In a breech-loading magazine gun, the combination with the frame thereof, of a longitudinally movable breech-bolt, a carrier pivotally hung by its rear end, and a pivotal bell-crank lever having its upper arm extended upward through the carrier in position to be engaged by the breech-bolt in the forward movement thereof, whereby the lever is tilted forward with the effect of lifting its lower arm against the carrier, which is thereby lifted, substantially as set forth.

11. In a breech-loading magazine gun, the combination with the frame thereof, of a longitudinally movable breech-bolt, a carrier pivotally hung by its rear end, and a bell-crank lever pivotally mounted with capacity for lateral deflection, at a point below the carrier through which its upper arm extends in position to be engaged by the breech-bolt when the same moves forward and back, and whereby the lower arm of the lever is lifted against the carrier, which is thereby raised, when the bolt is moved forward, and the said lever is laterally deflected for clearing the bolt in the rearward movement thereof, substantially as described.

12. In a breech-loading magazine gun, the combination with the frame thereof, of a breech-bolt having a beveled operating finger depending from its forward end, a trigger-plate mounted in the rear end of the said

frame, a carrier pivotally connected by its rear end with the said plate, and a bell-crank lever pivotally mounted in the forward end of the said plate, with capacity for lateral deflection, and having its lower arm arranged to lift the carrier, and its upper arm extended upward through the same in position to be engaged by the said finger which engages with it and rocks the lever and lifts the carrier in the forward movement of the bolt, and engages with it, and deflects the lever laterally in the rearward movement of the bolt, substantially as described.

13. In a breech-loading magazine gun, the combination with a frame having an ejection-opening formed in one of its side walls, of a carrier located within the chamber formed in the said frame, and a fender formed independently of the said carrier, set into a recess in one of the sides thereof, pivotally attached thereto by its rear end and having independent vertical movement, substantially as described.

14. In a breech-loading magazine gun, the combination with the frame thereof, the same having an ejection-opening formed in one of its side walls, of a carrier, a pivotal fender made independently of the carrier, interposed between the same and the said ejection-opening, and a spring coacting with the fender, substantially as set forth.

15. In a breech-loading magazine gun, the combination with the frame thereof, the same having an ejection-opening formed in one of its side walls, of a longitudinally-movable breech-bolt, a breech-bolt slide, a carrier, a pivotal fender formed independently of the carrier and located between the same and the said opening, and a spring coacting with the fender to assist the slide in holding the carrier in its depressed position when the gun is closed, substantially as described.

16. In a breech-loading magazine gun, the combination with the frame thereof, of a breech-bolt located therein, a trigger plate extending at its forward end into the lower portion of the said frame, a carrier pivotally hung by its rear end in the forward end of the said trigger plate, and a lifting lever pivotally mounted in the carrier, and having its rear end arranged to engage with the said plate, and also with a portion of the frame, whereby, when the carrier is elevated, the forward end of the lever will rise above the floor thereof, substantially as described.

17. In a breech-loading magazine gun, the combination with the frame thereof, of a tubular magazine, a longitudinally movable breech-bolt, a longitudinally movable breech-bolt slide mounted in the frame, and operating the said bolt, a sliding supporting handle mounted on the magazine for operation back and forth thereon, an action-bar connecting the said slide and handle, and a cartridge stop mounted in the frame, and connected with the action-bar for positive inward and outward movement thereby, substantially as described.

18. In a breech-loading magazine gun, the combination with the frame thereof, of a tubular magazine, a longitudinally movable breech-bolt, a longitudinally movable breech-bolt slide mounted in the frame and operating the said bolt, a sliding supporting handle mounted on the magazine for operation back and forth thereon, an action-bar connecting the said breech-bolt slide and handle, and provided at the rear end of its inner face with a draw flange, and constructed with a longitudinal groove, the rear end of which is curved outward to clear the said flange; and a cartridge stop mounted in the frame, and furnished with an outwardly projecting lateral finger entering the said groove, and coacting therewith and with the said flange for positively moving the stop inward and outward as the slide is moved forward and back, substantially as described.

19. In a breech-loading magazine gun, the combination with the frame thereof, of a longitudinally movable breech-bolt, a breech-bolt slide mounted in the frame and connected with the breech-bolt for operating the same, a tubular magazine, a sliding supporting handle mounted thereupon, an action-bar connecting the said slide and handle, a safety catch normally engaging with the rear end of the slide to lock the same, and hence the breech-bolt in their closed positions, and a hammer adapted when in it is closed position to depress the said safety-catch and unlock the slide, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN M. BROWNING.

Witnesses:
JOHN E. RAMSDEN,
KATE LINEHAN.