

(No Model.)

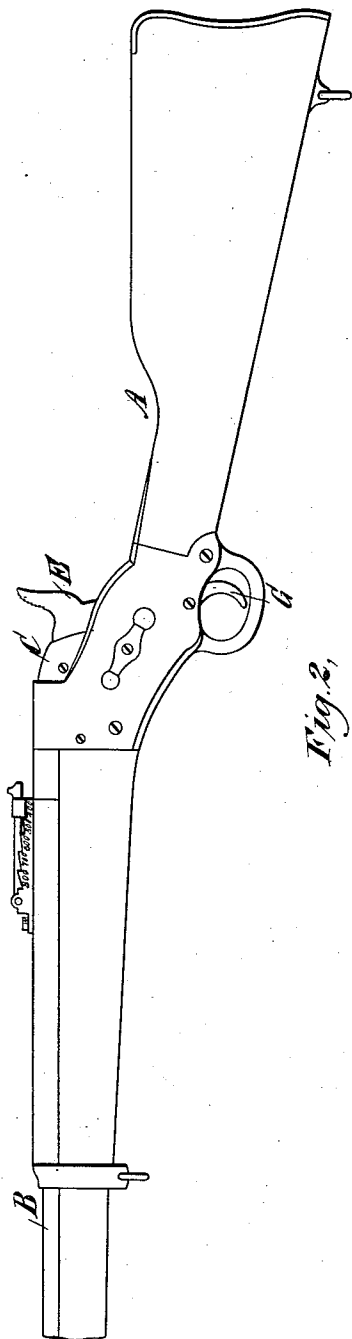
3 Sheets—Sheet 1.

M. V. DENG0.
BREECH LOADING FIREARM.

No. 562,286.

Patented June 16, 1896.

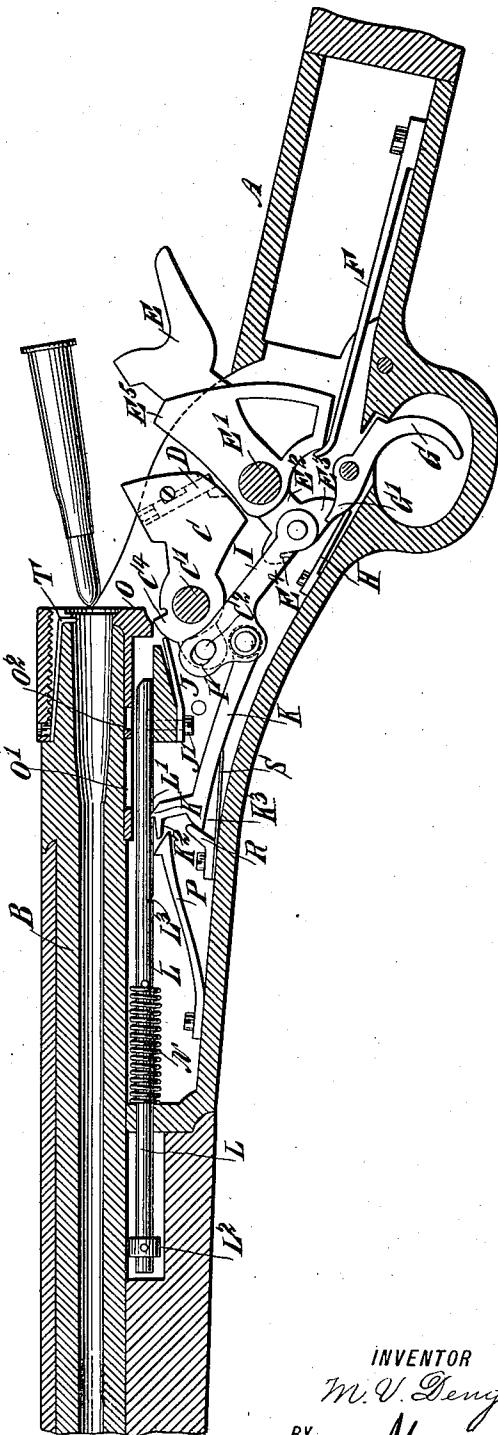
Fig. 1.



WITNESSES:

Edward Thorpe.
Rev. J. H. Smith.

Fig. 2.



INVENTOR

M. V. Dengo.

BY

Munn & Co

ATTORNEYS.

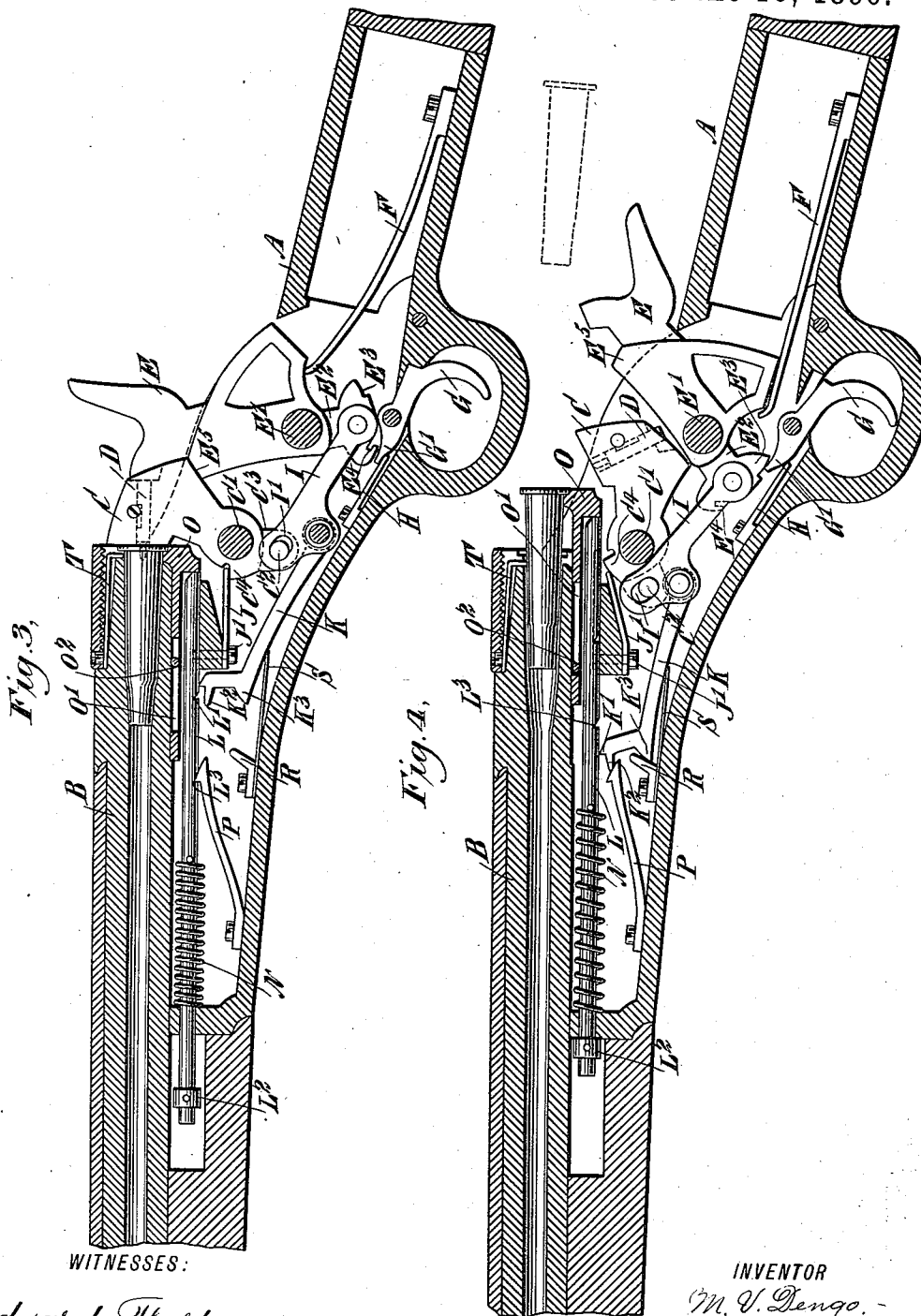
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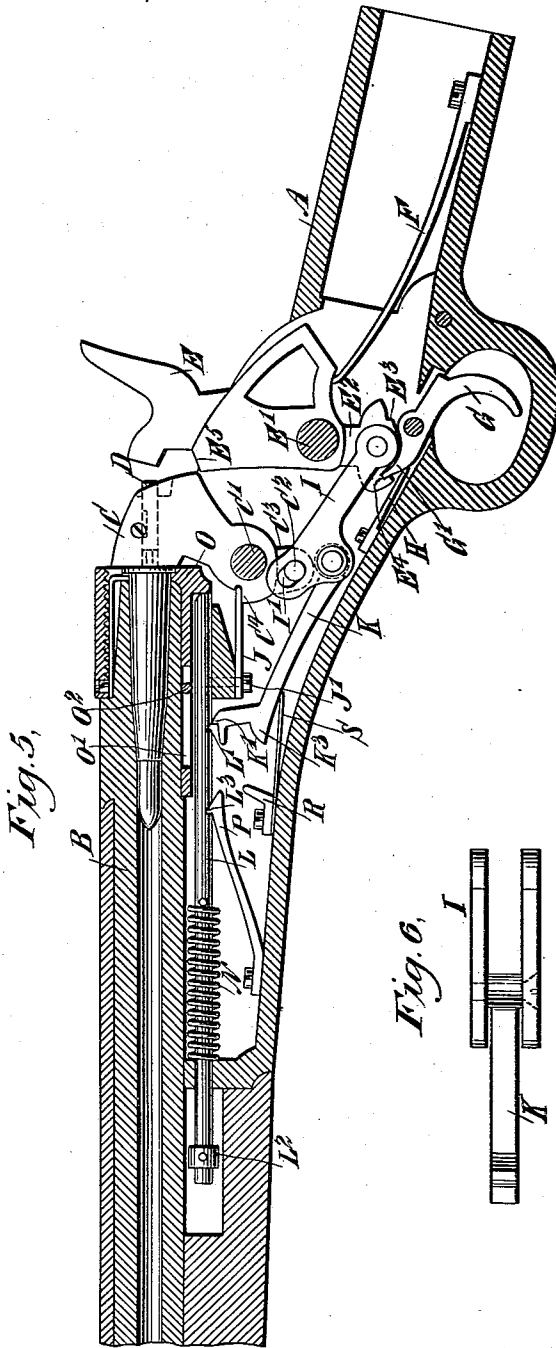
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3 Sheets—Sheet 3.

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WITNESSES:

Edward Thorpe,
Geo. F. Foster,

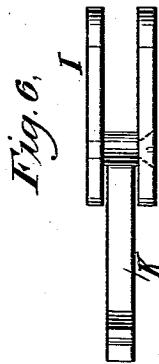


Fig. 10.

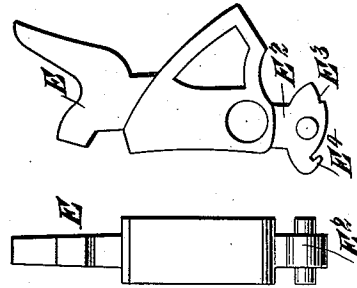


Fig. 11.

Fig. 8.

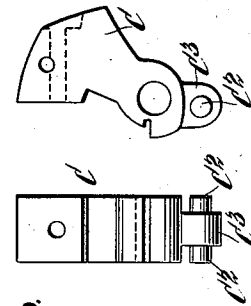


Fig. 9.

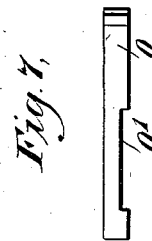


Fig. 7.

INVENTOR
M. V. Dengo.
BY Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

MANUEL VICTOR DENGÓ, OF SAN JOSÉ, COSTA RICA.

BREECH-LOADING FIREARM.

SPECIFICATION forming part of Letters Patent No. 562,286, dated June 16, 1896.

Application filed November 15, 1895. Serial No. 569,054. (No model.)

To all whom it may concern:

Be it known that I, MANUEL VICTOR DENGÓ, of San José, Costa Rica, Central America, have invented a new and Improved Breech-Loading Firearm, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved breech-loading firearm, which is simple and durable in construction, easily manipulated, arranged to securely hold the breech-block in position when firing, and to readily extract the shell.

The invention consists principally of a breech-block controlled during part of its closing movement by the hammer and the remainder by a spring, so as to seat the breech-block in advance of the hammer.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement. Fig. 2 is a longitudinal section taken through the breech mechanism of the firearm, the operative parts of the device being shown in elevation. Fig. 3 is a like view of the same with the parts in position after firing. Fig. 4 is a similar view of the same with the parts in position for extracting the shell. Fig. 5 is a like view of the same with the hammer in a safety position. Fig. 6 is a plan view of the link and push-bar. Fig. 7 is a plan view of the ejector. Fig. 8 is a side view of the breech-block detached, and Fig. 9 is a front end view thereof. Fig. 10 is a side elevation of the hammer, and Fig. 11 is a front end elevation of the same.

The improved firearm is provided with a suitably-constructed stock A, on which is secured the barrel B, adapted to be closed at its breech end by a breech-block C, fulcrumed at C' in the stock A. The breech-block C carries the usual firing-pin D, adapted to be actuated by a hammer E, fulcrumed at E' in the stock A and pressed on by the usual main-spring F, said firing-pin being notched, as shown in dotted lines in the drawings, and having its notch engaged by a screw or pin on

the breech-block C, so as to be held in place in the breech-block.

The hammer E is provided with an extension E², formed with a shoulder E³ and a notch E⁴, adapted to be engaged by the sear G', formed integrally with the trigger G, likewise pivoted in the stock A and extending with its finger-piece into the trigger-guard, as indicated in the drawings, said trigger being provided with a sear-spring 8, to hold the sear normally engaged with the hammer. The extension E² forms an integral heel or tumbler for the hammer E, and on this heel or tumbler is pivoted a double link I, (seen in detail in Fig. 6,) extending forwardly and upwardly and provided at its forward end with a slot I', engaging a pin C², projecting from opposite sides of an extension C³ on the pivot end of the breech-block C.

On the pivoted end of the breech-block is formed a shoulder C⁴, adapted to be engaged by the free end of a spring J, mounted in the stock A, and serving to draw the breech-block C quickly to a seated position on the breech end of the barrel B, when the firing-pin is about to be operated by the hammer. As clearly shown in the drawings, the point at which the link I is pivoted to the hammer is a greater distance from the fulcrum E' of the hammer than the distance from the pivot-point of the link on the breech-block from the pivot-point C' of the breech-block. By this arrangement the breech-block is caused to travel in advance of the hammer, since it will move faster than the hammer, and the spring J is so arranged as to engage the shoulder C⁴ on the breech-block just before the breech-block seats itself on the barrel, whereby said spring will impart to the moving breech-block a still greater velocity, this being permitted by the loose connection between the link I and the breech-block. The slotted connection between the link and the breech-block permits the hammer to move a certain distance after the breech-block has been seated on the barrel, so as to permit said hammer to operate the firing-pin.

The link I is pivotally connected with a push-bar K, extending forwardly, and provided at its free end with an upwardly-extending spur or lug K', adapted to engage a notch L' in the ejector-rod L, pressed by a

spring N, and fitted to slide longitudinally in the stock A. The rearward-sliding motion of the ejector-rod L is limited by a stop-collar L², as is plainly shown in the drawings.

5 The forward end of the ejector-rod L is adapted to engage an ejector O, arranged to engage under the flange of the cartridge, as is plainly shown in Figs. 3 and 5, the said ejector being fitted to slide longitudinally on
10 the under side of the barrel, and the sliding motion of the ejector is limited by a stop-pin O², held in the stock and engaging a slot or recess O' in one side of the ejector O.

In the ejector-rod L is formed a second
15 notch L³, adapted to be engaged by the free hook end of a spring-dog P, held in the stock. The ejector-rod is prevented from turning by a screw J', engaging a longitudinal recess in the said ejector-rod, said screw also serving
20 to fasten the spring J in place in the stock. The hook end of the spring-dog P is adapted to be engaged by a lug K², held on the free end of the push-bar K, to move said spring-dog out of engagement with the notch L³
25 whenever the bar K is depressed, as will be hereinafter explained, to release said ejector-rod and to move the ejector O outward to withdraw the shell from the barrel.

The free end of the push-bar K is provided
30 with a lug K³, adapted to engage a fixed inclined arm R, held within the stock A, so that said push-bar K is moved out of contact at its end K' with the notch L' whenever the hammer E is drawn into its rearmost position,
35 as shown in Fig. 4. A spring S is secured in place in the stock A under the said arm R, and the spring S engages the under side of the push-bar K, to normally press the end K' in engagement with the under side of
40 the ejector-rod L, to cause the free end K' to snap into the notch L' whenever the two are in register. A spring T, held in the top of the barrel B, engages with its free end the top of the cartridge, so as to prevent the latter from accidentally falling out in case the
45 barrel B is pointed upward.

The operation is as follows: When the several parts are in the position illustrated in Fig. 2, then the ejector O and the ejector-rod L are in an innermost position, and the hammer E, with the breech-block C, is in an outermost position to permit of introducing the cartridge into the barrel. When this has been done, the firearm can be fired by merely
50 pulling the trigger G, without first closing the breech, this action serving to release the hammer E, which, by the mainspring F, is now caused to swing forward; and by means of its connection with the link I imparting a swinging motion in a forward direction to the breech-block C, and the latter consequently moves with the hammer E but slightly in advance of the same, until its shoulder C⁴ passes into engagement with the free end of the
60 spring J, so that the latter presses on said shoulder C⁴ and causes a quick seating of the breech-block C on the breech end of the bar-

rel. This movement of the breech-block C is more rapid than the movement of the hammer E and said movement of the breech-block is possible, owing to the slot I' in the double link I. Thus, it will be seen that the breech-block C moves with the hammer E during part of the closing stroke, and during the remainder or final seating movement the breech-block moves more rapidly than the hammer, owing to the action of the spring J. As the hammer E finally comes into contact with the breech-block, it strikes the firing-pin D, to fire the cartridge in the usual manner.
80

In order to extract the shell from the barrel, the hammer E is drawn back, and acts to draw back the breech-block C by the action of the link I, and the latter, by moving the push-bar K forward, engages the latter with
85 the notch L' to push the ejector-rod L forward and compress the spring N, (see Fig. 2,) and at the same time the forward notch I² of the ejector-rod L is disengaged from the spring-dog P. (See Fig. 2.) When the hammer E moves into a lowermost position, then the lug K³ strikes the inclined arm R, so that the bar K is pushed downward, and the end K' moves out of engagement with the notch L', to release the ejector-rod L, the dog P being
90 meantime held out of operative position by the lug K², so that the said rod L is pushed rearwardly by the action of its compressed spring N, and this movement of the rod L causes the ejector O to be pushed rearwardly, to push the shell out of the breech end of the barrel. (See Fig. 4.)
100

After the shell has been ejected, the hammer E is set in a firing position or at full-cock, as shown in Fig. 2, it being understood that the trigger G then engages by its sear G' the shoulder E³ on the tumbler E². The operator now takes a new cartridge, pushes the same in the breech end and upon the ejector O, and then pushes the cartridge with the ejector, or he may push the ejector home and then insert a cartridge. (See Fig. 2.) When the cartridge is inserted, the hammer is let down to a safety position, or at half-cock, the sear then engaging the notch E² in the tumbler, by pressing lightly on the trigger.
115

When it is desired to fire again, the operator draws the hammer E into the firing position, and in doing so causes the breech-block C to swing with it into a rearmost position, and at the same time the bar K pushes the ejector-rod L into the position shown in Fig. 2 to compress the spring N. The above operation is then repeated.
120

The hammer E is formed with a shoulder E⁵, adapted to pass under the rear end of the breech-block C to positively lock the latter in place at the time the hammer strikes the firing-pin D, and the firing takes place, whereby recoil of the breech-block is entirely prevented. (See Fig. 3.)
125

Now, it will be seen that by the arrangement described, the firearm can be very readily manipulated, insures a positive ejection of the

shell after firing, and insures a seating of the breech-block on the breech end of the barrel before the hammer strikes the firing-pin.

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

1. In a firearm, the combination of a pivoted breech-block, a pivoted hammer, and a link pivotally connected to the hammer and
 10 to the breech-block, said link having its pivotal connection with the hammer a greater distance from the pivot whereon the hammer swings than its pivotal connection with the
 15 breech-block is distant from the pivot whereon the breech-block swings, substantially as set forth.

2. In a firearm, the combination of a pivoted breech-block having a shoulder, a pivoted hammer, a link pivotally connected to the hammer and to the breech-block, said link
 20 having its pivotal connection with the hammer a greater distance from the pivot whereon the hammer swings than its pivotal connection with the breech-block is distant from the pivot whereon the breech-block swings,
 25 said link having a loose connection with the breech-block whereby the hammer is permitted to move independently of the breech-block after the latter is seated, a firing-pin carried by the breech-block, and a spring arranged
 30 when the breech-block is moved, to engage the shoulder thereon and hold the breech-block against the breech, substantially as set forth.

3. In a firearm, the combination of a pivoted breech-block, a pivoted hammer, a sear, an extension on the hammer forming a tumbler and having notches to be engaged by the
 35 sear, pins projecting from opposite sides of the breech-block at the lower end thereof, and a double link having its sides pivoted at their rear ends to opposite sides of the tumbler, and having their respective forward ends
 40 slotted to receive pins projecting from opposite sides of the breech-block, substantially as set forth.

4. In a firearm, the combination of a barrel, a breech-block, a pivoted hammer, a sliding ejector, a spring connected to said ejector,
 50 and means actuated by the movement of the hammer for placing said spring under tension, means to release said spring when the hammer is raised, whereby the ejector is actuated to throw the discharged shell from the
 55 barrel, substantially as set forth.

5. In a firearm, the combination of a barrel, a breech-block, a pivoted hammer, an ejector, a spring operatively connected to said
 60 ejector, means actuated by the movement of the hammer for placing said spring under tension, a dog to hold the spring under tension, and means actuated by the raising of the hammer to disengage said dog and permit said
 65 spring to operate the ejector to throw the shell from the barrel, substantially as set forth.

6. In a firearm, the combination of a barrel, a breech-block, a pivoted hammer, an

ejector, an ejector-rod operatively connected to the ejector, a spring connected to the ejector-rod and adapted to actuate the same,
 70 and means actuated by the movement of the hammer for first moving said ejector-rod to place said spring under tension and then releasing said ejector-rod to permit said spring to actuate the same, substantially as set forth.

7. In a firearm, the combination of a barrel, a breech-block, a pivoted hammer, an ejector, an ejector-rod operatively connected to the ejector, a spring connected to the
 80 ejector-rod, a push-bar connected to the hammer and arranged when the hammer is raised to engage the ejector-rod, and move the same to place said spring under tension, and means actuated by the movement of the hammer to disengage said push-bar from the ejector-rod,
 85 substantially as set forth.

8. In a firearm, the combination of a barrel, a breech-block, a pivoted hammer, an ejector, an ejector-rod operatively connected to the ejector, a spring connected to the
 90 ejector-rod, a push-bar connected to the hammer and arranged when the hammer is moved to engage said ejector-rod and move the same to compress the spring, a dog arranged to engage said ejector-rod to hold the spring under
 95 tension, and means for disengaging said push-bar and dog from the ejector-rod, substantially as set forth.

9. In a firearm, the combination of a barrel, a breech-block, a pivoted hammer, an
 100 ejector, an ejector-rod operatively connected to the ejector, a spring connected to the ejector-rod, a push-bar connected to the hammer and adapted when the hammer is moved to engage the ejector-rod and move the same
 105 to compress said spring, a dog arranged to engage the ejector-rod to hold said spring under tension, means for disengaging the push-bar from the ejector-rod as the hammer is raised, and means actuated by the movement of said
 110 push-bar for disengaging the dog from the ejector-rod, substantially as set forth.

10. In a firearm, the combination of a stock, a barrel, a breech-block, a pivoted hammer, an ejector, an ejector-rod operatively connected to the ejector, a spring connected to the
 115 ejector-rod, a push-bar connected to the hammer and arranged when the hammer is moved to engage the ejector-rod and move the same to place said spring under tension, a dog arranged to engage the ejector-rod to hold the spring under tension, a lug on the
 120 stock arranged when the push-bar reaches the end of its stroke to draw said push-bar out of engagement with the ejector-rod, and
 125 a lug on the push-bar arranged to engage said dog, and move the same out of engagement with the ejector-rod, substantially as set forth.

11. In a firearm, the combination of a stock, a barrel, a breech-block, a pivoted hammer,
 130 an ejector, a notched ejector-rod operatively connected to the ejector, a spring connected to the ejector-rod, a link pivotally connecting the hammer and breech-block, a push-bar piv-

otally connected at one end to the link and having its opposite end arranged to engage one of the notches in the ejector-rod, a spring arranged to engage said push-bar to hold the same normally engaged with the notch in the ejector-rod, said push-bar being arranged when the hammer is moved to engage said ejector-rod and move the same to compress the spring connected therewith; a dog arranged to engage one of the notches in the ejector-rod to hold the spring connected with the ejector-rod under tension, a lug on the stock arranged to engage said push-bar, to move the same out of engagement with the ejector-rod, and a lug on the push-bar arranged to engage said dog to move the same

out of engagement with the ejector-rod, substantially as set forth.

12. In a firearm, the combination of a barrel, a breech-block, an ejector, an ejector-rod 20 operatively connected to the ejector and having a longitudinal slot, means for operating said ejector, a spring operatively connected to the breech-block, a stock, and a screw for holding said spring to the stock, said screw 25 having engagement with the slot in the ejector, substantially as set forth.

MANUEL VICTOR DENG0.

Witnesses:

JNO. M. RITTER,
THEO. G. H0STER.