

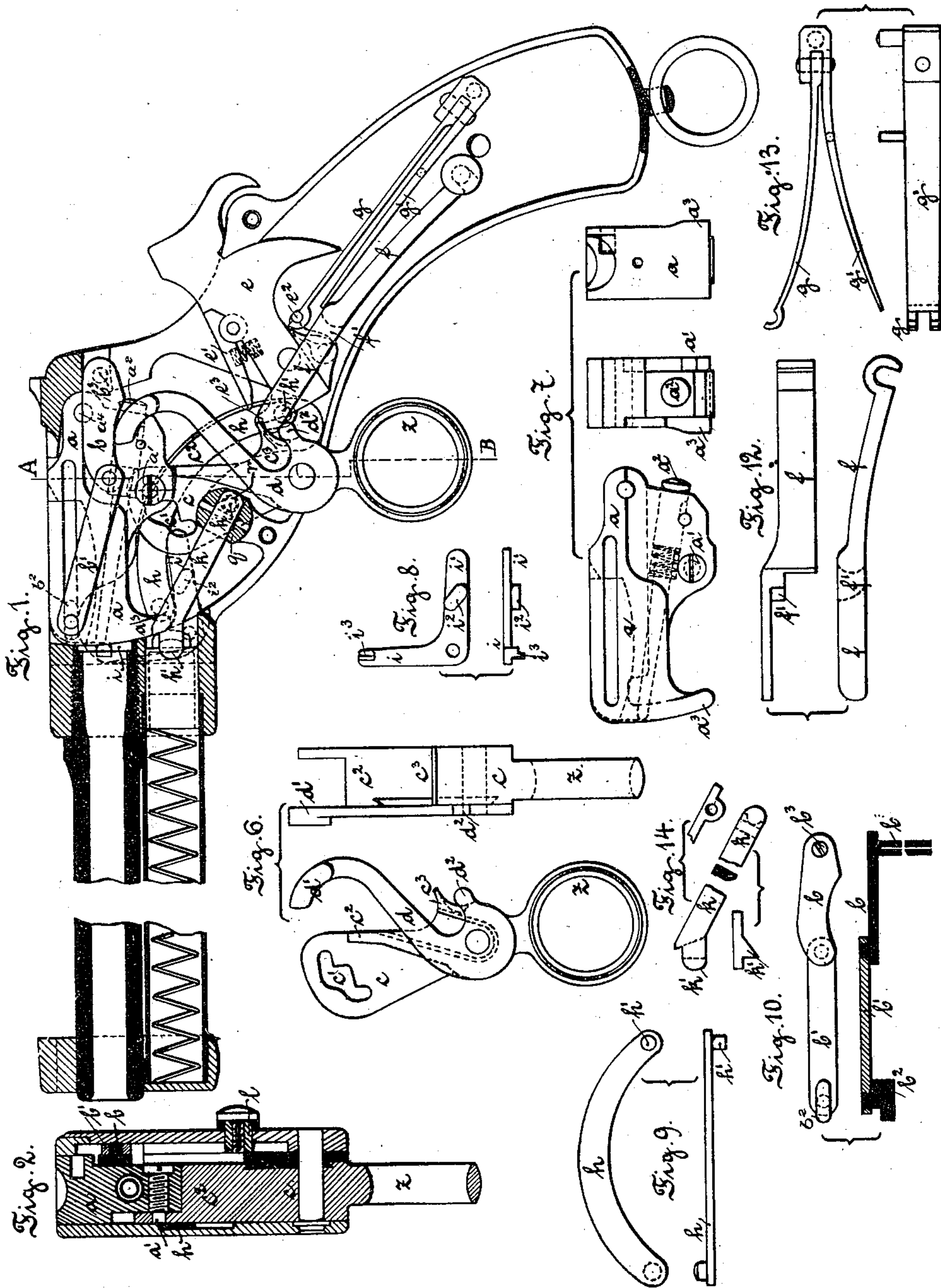
(No Model.)

3 Sheets—Sheet 1.

P. MAUSER.  
REPEATING FIRE ARM.

No. 370,964.

Patented Oct. 4, 1887.



WITNESSES:

*Arthur Milton.*  
*A. L. Hall.*

INVENTOR:

*Paul Mauser.*

By his Attorneys,

*Arthur C. Fraser & Co.,*

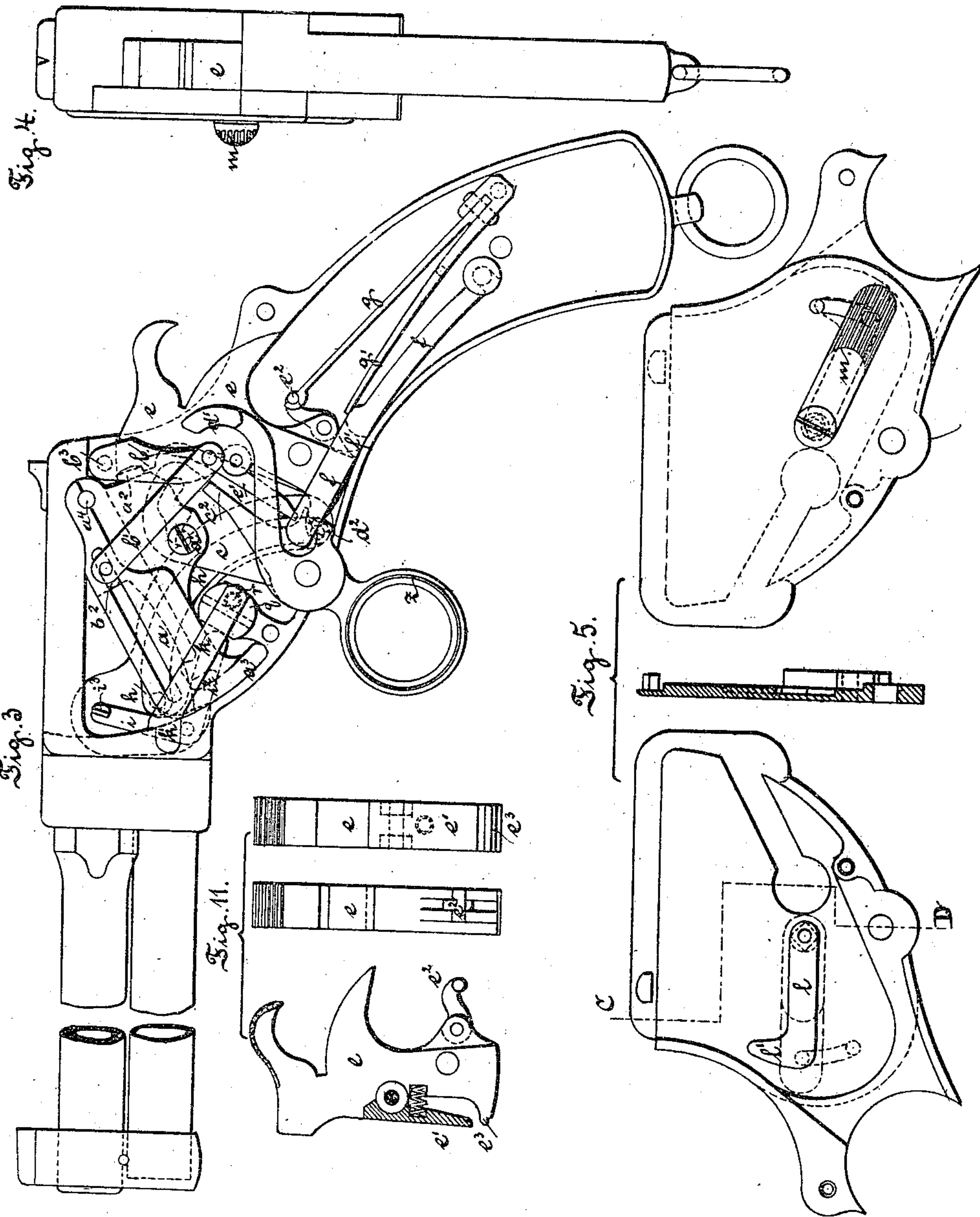
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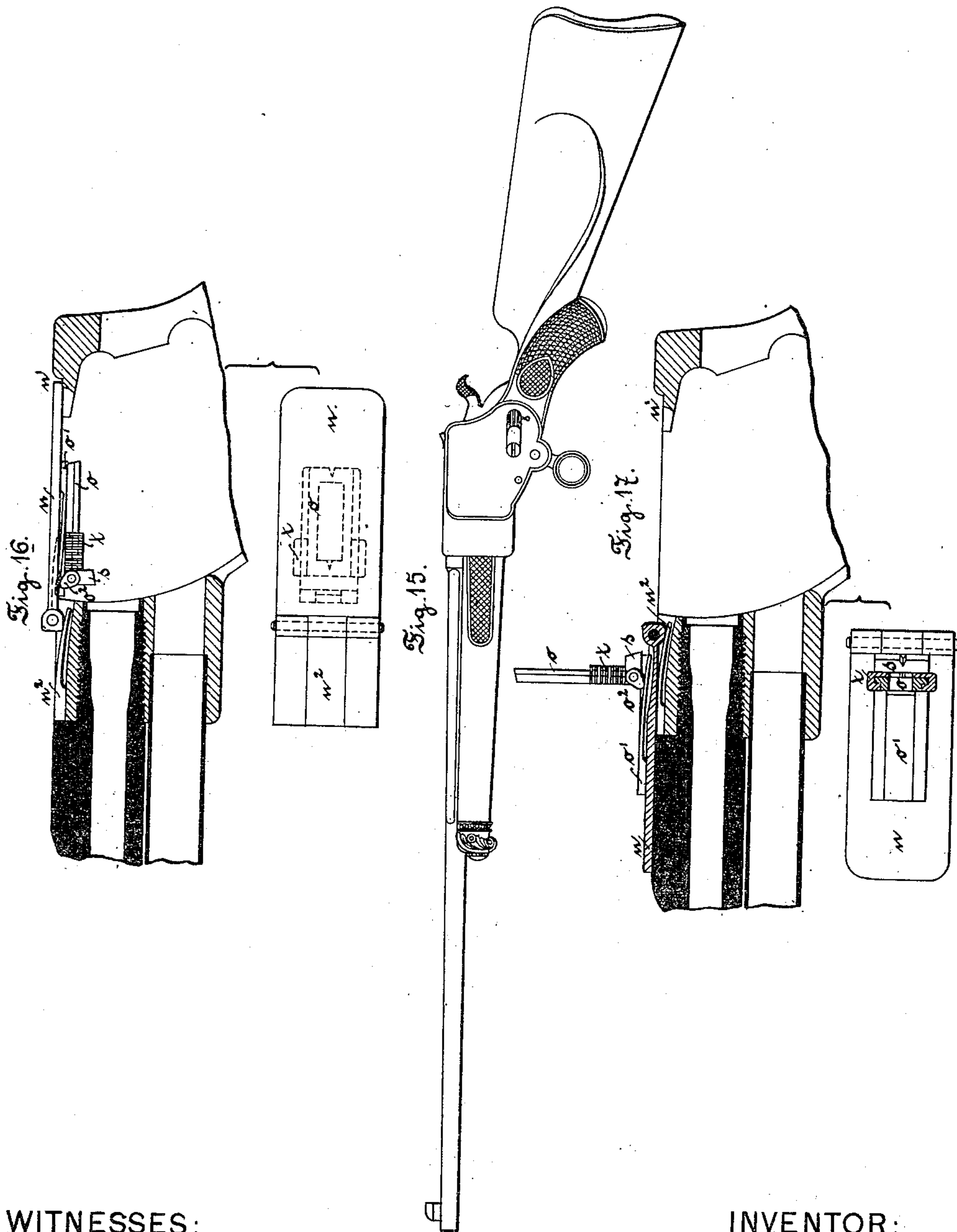
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3 Sheets—Sheet 3.

P. MAUSER.  
REPEATING FIRE ARM.

No. 370,964.

Patented Oct. 4, 1887.



WITNESSES:

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INVENTOR:

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# UNITED STATES PATENT OFFICE

PAUL MAUSER, OF OBERNDORF, ON THE NECKAR, WÜRTtemberg, GERMANY,  
ASSIGNOR TO THE WAFFENFABRIK MAUSER, OF SAME PLACE.

## REPEATING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 370,964, dated October 4, 1887.

Application filed September 16, 1886. Serial No. 214,664. (No model.)

*To all whom it may concern:*

Be it known that I, PAUL MAUSER, of Oberndorf, on the Neckar, in the Kingdom of Würtemberg, German Empire, have invented Improvements in Repeating Fire-Arms, of which the following is a specification.

The invention relates in general to self-cocking repeating breech-loading fire-arms with vertically-swinging breech-blocks, and with a magazine-tube for cartridges below the barrel; and its object is to produce a reliable and simple mechanism for cocking and firing the arm automatically by the motion of the trigger, and which permits, also, of cocking the arm independently by hand in the usual way, and of using and firing it like a common single-shooter. The swinging breech-block is vibrated by the movement of the trigger, which acts upon it through the medium of a cam-slot. The forward movement of the lower arm or ring-handle of the trigger, under the impulse of a spring, throws down the breech-block, thereby ejecting the spent shell, and when the block is in its lowest position a cartridge is pushed from the magazine-tube into a spoon-shaped recess on the top of the breech-block. The pulling back of the trigger by the hand carries the breech-block partly up and causes a cartridge-pusher to act to press forward the cartridge into the barrel. At the same time the hammer is forced back or lifted. The continued rearward movement of the trigger raises the breech-block to its highest position, with the front end of the firing-pin opposite the center of the cartridge, and locks it in place, and then automatically releases the hammer, which strikes the firing-pin and discharges the gun. When used as a single-cocker, the trigger, after having been moved forward by the spring, is not pulled back by hand, but the hand is applied to pull back the hammer, and the movement of the hammer is imparted to the trigger sufficiently to reload the gun ready for firing, whereupon the hammer is held by the trigger and may be released by a slight backward pull of the trigger.

The ejector consists of an elbow-lever which is first moved, at great advantage of leverage, by a long curved lever or bow, in order to start the shell, and is then struck by the descending breech-block to throw the shell out.

The magazine-feed consists of an arrester-

lever having a tooth for engaging the cartridges, which is pressed out of the way by the breech-block in its descent to allow a cartridge to pass.

The cartridge-pusher for forcing the cartridge from the breech-block into the barrel consists of a sliding block moving in a slot in the breech-block and operated by toggle-levers, one end of which is pivoted to said block and the other end to the lock-case. The toggle is straightened by an arm carried by the trigger, which strikes it and forces the block forward.

The safety-lock consists of a slide or lever pivoted to the lock-plate, which, when turned to "safety," stands in the way of this arm on the trigger, thereby preventing the pulling of the trigger. The trigger is moved forward to throw down the breech-block by the pressure of a strong spring, which is communicated to it through the medium of a transfer-lever. The opening in the top of the breech is closed, when the gun is not in use, by a hinged dust-cover, to which is pivoted the sight, so that when the cover is turned outward the sight may be erected.

Figures 1 to 14 of the accompanying drawings illustrate a repeating-pistol constructed according to my invention. Fig. 15 shows a carbine, and Figs. 16 and 17 illustrate an additional feature of my invention applicable to the pistol shown in the first figures or to other arms. Fig. 1 is a side view of the pistol, the lock and stock-plate being removed, and the barrel and magazine tube being in longitudinal mid-section. The parts are shown in the hand-cocked position, ready to fire upon touching the trigger. Fig. 2 is a vertical transverse section cut on the line A B in Fig. 1 and looking toward the stock. Fig. 3 is a side elevation, the lock and stock-plate being removed as in Fig. 1. The parts are here shown in the position after the discharge, the hammer having been drawn partly back to release the firing-pin, the breech-block having been thrown down, and the empty cartridge-shell having been ejected. Fig. 4 is a rear elevation of the pistol. Fig. 5 shows the lock-plate in three views, the right-hand one being an external elevation, the left-hand one being an internal elevation, and the middle one being a section



on the line C D. Fig. 6 shows the trigger and its attached cam-lever detached, the left-hand view being an elevation viewed from the left side, and the right-hand view being a rear elevation. Fig. 7 shows the breech-block detached, the three views being respectively side, rear, and front elevations. Fig. 8 shows the ejector, the upper view being a side elevation and the lower one a plan. Fig. 9 shows the bow-lever for starting the ejector, the upper view being a side elevation and the lower one an edge view looking from above. Fig. 10 shows the toggle-jointed cartridge-pusher, the upper view being an elevation of its right side and the lower view being a longitudinal section through it. Fig. 11 shows the hammer removed, the three views being respectively a side, rear, and front elevation of it. Fig. 12 shows the transfer-lever removed, in plan and side elevation. Fig. 13 shows the spring, the upper view being a side elevation and the lower view a plan; and Fig. 14 shows the magazine feed lever or arrester, the middle view being a left-side elevation, and the fragments above and below being edge views of its opposite ends. Fig. 15 is a side elevation of a carbine constructed according to my invention. Fig. 16 is a longitudinal section of the breech portion of a pistol or other arm, showing a dust-cover and sight applied thereto, and the lower view is a plan of the dust-cover and sight; and Fig. 17 is a similar section showing the dust-cover opened and the sight turned up, the lower view being a plan of the inverted cover with the sight in cross-section.

I will first describe the construction of the parts with reference to Figs. 1 to 14.

Let  $a$  designate the breech-block,  $z$  the trigger, and  $e$  the hammer.

The breech-block  $a$  (shown detached in Fig. 7) is pivoted on a stud,  $a^1$ , Figs. 1 and 3, fixed in the lock-case, and swings in a vertical plane. Through it passes the firing-pin  $a^2$ , which is pressed back by a spiral spring, Fig. 7, and projects at its rear end in position to be struck by the hammer  $e$ .

The trigger  $z$ , Fig. 6, carries a flat step-plate,  $c$ , a prop,  $c^2$ , and a hooked arm,  $d$ , and is formed with a trigger-beak,  $c^3$ , for engaging the hammer, and with a toe,  $d^2$ . The lower arm of the trigger is made of ring shape. The entire mechanism is operated by the backward-and-forward movement of this trigger. The step-plate  $c$  has a stepped slot,  $c'$ , which engages a stud,  $a'$ , projecting at the right side of the breech-block, Fig. 2, by which the breech-block is thrown up or down at the proper time, its stud  $a'$  being forced to follow the different curves and steps of the slot  $c'$ . When the breech-block has been thrown to its highest position, the further backward movement of the trigger carries the prop  $c^2$  forward and underneath the breech-block, so that the latter, which is already supported by the last step of the slot  $c'$ , is additionally and securely locked in position against the recoil of the cartridge. The breech-block has a spoon-

shaped cavity milled into its top to receive the cartridge from the magazine when the breech-block is in its lowermost position, as in Fig. 3, and to carry it up to the position of loading, (which is midway of the extreme positions shown in Figs. 1 and 3.) In the left side of the breech-block is a long slot which works a block,  $b^2$ , by which the cartridge is pushed into the barrel. A toggle-joint,  $b b'$ , Fig. 10, is pivoted at the front to this block and at the rear end to the lock-case. The latter pivot consists of a longitudinally-slitted pin,  $b^3$ , Fig. 10, formed in the link  $b$ , which enters a hole in the lock case and oscillates therein with some friction. This construction is for the purpose of giving to the links  $b b'$  a close play and to avoid their moving prematurely, and thereby interfering with the cartridge.

The hooked arm  $d$  carried by the trigger terminates in a head,  $d'$ , which co-operates with the toggle-links  $b b'$ . When the ascending breech-block pauses in its middle position, (while the stud  $a'$  rests in the middle step of the slot  $c'$ ), the head  $d'$  encounters the rear of the link  $b$  and presses it forward until it straightens the toggle-joint. By this movement the block  $b^2$  is slid forward and presses the cartridge into the barrel. The movement of the block is of considerable extent, while the head  $d'$  has but a short movement. The resistance of the cartridge as it is being pushed home and encounters the maximum friction in the barrel is overcome by the pressure due to straightening of the toggle-joint at the end of its movement.

To the hammer  $e$ , Fig. 11, is hinged a spring-beak,  $e'$ , which makes the arm serviceable as a self-cocker, the trigger-beak  $c^3$  catching under the spring-beak  $e'$  and raising the cock  $e$  until the required striking-power is reached and until the breech-block is in position for firing, when the spring-beak  $e'$  passes the trigger-beak  $c^3$ , and the hammer  $e$ , driven by the spring  $g$ , strikes the firing-pin  $a^2$ , which explodes the cartridge. In drawing back the hammer  $e$  with the thumb in the usual manner, using the arm as single-cocker, the upper part of the trigger-beak  $c^3$  effects the back-motion of the trigger, and therefore also the raising and pushing into the barrel of the cartridge and the locking of the breech until the trigger-beak  $c^3$  catches into the top bent,  $e^3$ , when the arm is full cocked, as shown in Fig. 1. From this position the hammer  $e$  is disengaged, after a careful aim may have been taken, by a slight backward pull of the trigger.

The spring  $g$ , Fig. 13, furnishes the power required for the opening of the breech after the discharge, its pressure being communicated to the trigger by means of a transfer-lever,  $f$ , Fig. 12, the front end of which presses upon the top of the cam  $d^2$  of the cam-lever  $d$  and turns the latter and the trigger. By this movement the breech-block  $a$  is depressed and the empty cartridge-shell is ejected. The off-



set  $f'$  of the transfer-lever  $f$  in moving down encounters the rear face of the cock  $e$  and presses it back far enough to release the firing-pin  $a^2$ , which then returns to its normal position under the impulse of the spiral spring. The spring  $g'$  is fastened to the lock-case by two studs, Fig. 13, and its rear end is folded over and embraces the end of the mainspring  $g$ , which is secured thereto by a cross-pin, forming in this way a duplex spring.

The ejector  $i$ , Fig. 8, which performs also the duty of a shell-extractor, has the shape of an elbow-lever, the upright arm of which is furnished with a claw,  $i^3$ , which grasps the shell-rim, as usual, at the front side. The other arm,  $i'$ , is formed with a button,  $i^2$ . A bow-lever,  $h$ , Fig. 9, is pivoted to the right-hand side of the case at its front end, and extends thence rearwardly and downwardly, and a stud,  $h'$ , on its rear end stands below and in the path of the trigger-beak  $c^3$ . During the forward movement of the trigger, under the impulse of the spring  $g'$ , the trigger-beak in its downward movement forces down the stud  $h'$ , and the movement thus imparted to the bow-lever is communicated by it to the arm  $i'$  of the ejector, whereby the latter is tilted slightly at a great advantage of leverage, and thereby sufficient power is imparted to the claw  $i^3$  to enable it to extract easily even any tight-clinching shells. By this movement the shell is drawn out far enough to loosen it. Meanwhile the breech-block  $a$  has been descending, and when it reaches nearly the bottom of its stroke it strikes the button  $i^2$  and quickly throws over the ejector, as shown in Fig. 3, whereby the shell is completely thrown out. The next cartridge in the magazine is retained in its position by the nose  $k'$  of the arrester  $k$ , Fig. 13, which is pivoted by a cross-pin to a post,  $q$ , of the lock-case. The breech-block  $a$  has a swell,  $a^3$ , formed on its left side, Fig. 7, which, when the breech-block ascends, presses to one side the front end of the arrester  $k$ , so that the nose  $k'$  sets free the cartridge, and the latter is then pushed back by the action of the magazine-spring into the spoon of the breech-block  $a$ , as is done in most of the known magazine-arms. A small helical spring,  $r$ , contained in a socket in the post  $q$ , brings back the arrester  $k$  into its arresting position.

The safety device consists of two levers,  $l$  and  $m$ , Fig. 5, mounted on opposite sides of the lock-plate, which are united by a short axis, with which they turn simultaneously. By turning the exterior lever,  $m$ , upward the nose  $l'$  of the interior lever,  $l$ , is wedged between the head  $d'$  and the back end of the link  $b'$ , thereby preventing the pulling of the trigger  $z$ , and also any motion of the lock mechanism. A depressing of the safety-lever  $m$  allows again a free play of the lock mechanism.

To prevent the introduction of dust and other impurities into the lock as long as the arm is not used, the device represented in Figs. 16 and 17 can be employed; but as it is not a essential one for the performance of

the weapon it is not shown in the former figures. In the top of that portion of the lock-case into which the barrel is screwed a recess is milled, in which is hinged a plate,  $n$ , which constitutes the dust cover. If closed, as shown in Fig. 16, it covers the top opening of the lock-case, fitting closely into a suitable recess,  $n'$ , provided for this purpose in the metal surrounding that opening. If opened, as shown in Fig. 17, the dust-cover  $n$  is brought forward and turned down upon the barrel. In either position it is retained by a spring,  $n^2$ , arranged in the recess and acting from below upon a suitable squared boss of the hinge portion of the dust-cover. This dust-cover  $n$  is made use of as the support for the sight  $o$ , which may be of any known construction. In the drawings a sight is shown which is well adapted for carbines and rifles, having a movable main-leaf and slide. The main leaf is hinged to the dust-cover  $n$  and kept in either of its two positions by a spring,  $o'$ , acting on a nose,  $o^2$ , and serves, if laid down on the dust-cover  $n$ , as a block-sight, and if erected to a vertical position and adjusted in the slide  $z$  as a sight for greater distances. When the latter sight is used, the main leaf must be folded down upon the dust-cover  $n$  prior to the closing of the dust-cover  $n$ , as shown in Fig. 16. Therefore care must be taken that the whole sight  $o$  is shaped in such way as to pass into the empty space of the lock-case between the dust cover  $n$  and the breech-block  $a$  without interfering with the latter. Not only does the dust-cover  $n$  exclude the dust from the interior of the lock, but, in addition, by serving as a base for the sight it has the advantage of protecting the sight against injury and of rendering unnecessary a separate leather guard or the like for covering the sight.

The construction of the various parts having now been fully described, their co-operative working may be readily understood.

I will first describe the operation of the gun as a self-cocker.

After having filled the magazine-tube with cartridges and placed one in the spoon of the breech-block  $a$ , the arm is ready for firing. For this purpose the ring-trigger  $z$  is pulled backward with the forefinger. Thereby the stepped slot  $c'$  forces up the stud  $a'$  and the breech-block  $a$  is raised. Then the breech-block stands still while the stud  $a'$  moves in the first curved step of the slot  $c'$ . During this time the head  $d'$  of the cam-lever  $d$  presses the toggle-joint  $b b'$  into a straight position and the cartridge-pusher  $b^2$  presses the cartridge from the spoon of the breech-block  $a$  into the barrel. The further pulling back of the ring-trigger  $z$  brings the stud  $a'$ , and therefore also the breech-block  $a$ , into its highest position, whereby the closing of the breech is effected, and the prop  $c^2$  is moved under the breech-block  $a$ , while the stud  $a'$  stands in the second step of the slot  $c'$  of the step-plate  $c$ . Meanwhile the trigger-beak  $c^3$ , by engaging the spring-beak  $c'$ , has pressed back the ham-



mer *e*, and after the breech-block becomes locked in position these beaks pass each other and the hammer falls under the impulse of the spring *g'* and strikes with full force on the back end of the firing-pin *a*<sup>2</sup>, the front end of which explodes the cartridge. Upon the release of the ring-trigger *z* by the finger of the operator, it is pressed forward by the tension of the spring *g'*, acting through the transfer-lever *f*, which also presses back the hammer *e* far enough to release the firing-pin. The forward movement of the trigger moves the prop *c*<sup>2</sup> from underneath the breech-block and throws down the latter. The same movement carries back the hooked lever *d*, so that its head *d'* is moved out of the way of the toggle-links *b b'*, which double up as the breech-block moves down, and thereby draw back the cartridge-pusher *b*<sup>2</sup>. At the same time the trigger, by bearing against the bow-lever *h*, has started the shell-extractor, the movement of which is completed as the breech-block continues its descent, and the empty shell is ejected. While the breech-block was in its uppermost position the feed-arrester *k* was pressed to one side by the swell *a*<sup>3</sup>, so that it released one cartridge and permitted the base thereof to rest against the lower end of the breech-block. Upon the descent of the breech-block the arrester is released, and its tooth *k'* moves against this cartridge, in front of its rim, in position to arrest the next following cartridge. When the breech-block reaches its bottom position, the freed cartridge is pressed back by the magazine-spring into the spoon on its top. During the forward movement of the trigger its beak *c*<sup>3</sup> presses back the spring-hammer beak *e'* and snaps under it. The described succession of movements may now be repeated.

I will now describe the operation when used as a single-cocker.

Instead of pulling back the trigger *z*, the operator cocks the arm by pulling back the hammer *e* with his thumb. In so doing the top bent, *e*<sup>3</sup>, on the hammer encounters the trigger-beak *c*<sup>3</sup> and presses the latter forward, thereby imparting the backward movement to the trigger, through the medium of which the arm is loaded. The top bent finally passes by the trigger-beak, and the latter falls under it and catches it, as shown in Fig. 1. The arm is thus cocked and remains in this condition until ready to fire. It is fired by slightly pulling the trigger, whereby the trigger-beak is drawn out from under the top bent, *e*<sup>3</sup>, whereupon the hammer falls.

This invention is by no means confined to pistols, but is equally applicable to carbine, rifles, muskets, or any other kind of hand fire-arms. Fig. 15 shows a carbine built according to this invention.

It is to be observed that my invention may be modified in various structural ways without departing from its essential features, and that certain of the novel mechanisms forming part of my invention may be omitted without thereby materially changing the operation or

character of the mechanisms or combinations that may be retained.

It is my intention to secure to myself the right to the use of any one of the several novel mechanisms included in my invention, whether used by itself or in connection with any of the remaining mechanisms.

It is evident that the part which I have herein referred to as the "trigger" is essentially an operating-lever, and is not necessarily the part by which the hammer is released to fire the gun. These two functions may be separated, the operation of the loading, cocking, and shell-ejecting being performed by one lever and the firing by another lever, the latter being the trigger proper.

What I claim as new, and desire to secure by Letters Patent is, in a breech-loading repeating fire-arm, the following defined novel features or combinations, namely:

1. A vertically-swinging breech-block pivoted at the rear, in combination with an operating-lever, the one part having a stepped slot formed with two angular changes of direction, and the other part having a stud entering said slot, whereby as the operating-lever is vibrated forward the breech-block is lowered, and as the lever is vibrated backward the block is first raised to the loading position while the stud engages an inclined part of said slot, remains stationary in that position while the stud engages an intermediate level part of the slot, and is finally raised to the firing position while the stud engages another inclined part of the slot.

2. The combination of a vertically-swinging breech-block pivoted at the rear, an operating-lever connected to it in such manner as to lower it when moved in one direction, and when moved in the other direction to raise it to the loading position, to hold it there a moment, and finally to raise it to the firing position, a cartridge-pusher borne by said breech-block and movable up and down therewith, mounted in guides thereon, and movable in said guides toward and from the barrel, and mechanism moved by said operating-lever for forcibly moving said pusher forward while the breech-block is pausing in the loading position.

3. The combination of a vertically-swinging breech-block, an operating-lever connected to it in such manner as to lower it when vibrated forward, and when vibrated backward to raise it to the loading position, to hold it there a moment, and finally to raise it to the firing position, a cartridge-pusher mounted in guides on said block and movable toward or from the barrel, and an arm on said operating-lever for forcing the pusher forward while the breech-block is pausing in the loading position.

4. The combination of a vertically-swinging breech-block, an operating-lever connected to it and adapted, when vibrated, to raise or lower it, and in raising it to hold it for a moment in the loading position, a cartridge-pusher mounted in guides on said block and



movable toward and from the barrel, toggle-jointed links pivoted at the forward end to said pusher and at the rear end to the lock-case, and mechanism for straightening said toggles to force the pusher forward when the block is in the loading position.

5 5. The combination, with a moving breech-block and mechanism for moving it between the loading and firing positions, of a cartridge-  
10 pusher movable toward and from the barrel, toggle-jointed links pivoted at the forward end to said pusher and at the rear end to the lock-case, and mechanism for straightening said  
15 toggles to force the pusher forward when the block is in the loading position, whereby the maximum purchase is attained as the cartridge is forced home.

6. The combination, with a moving breech-block and mechanism for moving it between  
20 the loading and firing positions, of a cartridge-pusher movable toward and from the barrel, toggle-jointed links pivoted at the forward end to said pusher and at the rear end to the lock-case, a frictional pivot applied to the toggle to  
25 prevent its premature movement, and mechanism for straightening said toggles to force the pusher forward when the block is in the locking position.

7. The combination of a vertically swinging  
30 breech-block, an operating-lever connected to it and adapted, when vibrated, to raise or lower it, a cartridge-pusher mounted in guides in said block and movable toward and from the barrel, toggle-jointed links pivoted  
35 to said pusher and to the lock-case at opposite ends, and an arm connected to said operating-lever and acting against said links to force said pusher forward.

8. The combination of a hammer having a  
40 pivoted lifting beak or snap, with an operating-lever for operating the loading and ejecting mechanisms, having a trigger-beak for engaging said snap, and adapted during the movement by which the empty shell is ejected  
45 to press back and pass under said snap, and on the opposite movement, by which the fresh cartridge is loaded, to take under said snap and thereby lift the hammer, and finally, when the parts are in the firing position, to  
50 pass clear of the end thereof and thereby drop the hammer.

9. The combination of a swinging breech-block, an operating-lever for moving the same and for actuating the ejecting and reloading  
55 mechanisms, a trigger-beak connected to said lever, and a hammer having a top bent,  $e^3$ , adapted on the cocking of the hammer to encounter said trigger-beak, and thereby to move said operating-lever and bring the parts to  
60 the firing position, and thereupon to pass the same and be caught thereby, whereby the hammer is held cocked until the operating lever or trigger is pulled to fire the gun.

10. The combination of a swinging breech-  
65 block, ejecting and loading mechanisms, and an operating-lever for actuating them, with a trigger-beak on said lever; and a hammer hav-

ing a pivoted lifting beak or snap,  $e'$ , to be acted on by said trigger-beak during the backward vibration of said lever, and thereby to  
70 automatically cock the hammer, and then, on passing clear of said snap, to release the hammer and fire the gun, and a top bent,  $e^3$ , to act upon said trigger-beak and thereby vibrate  
75 said operating-lever backward when the arm is cocked separately, whereby the arm is adapted for either self cocking or separate cocking.

11. The combination of a vertically swinging breech-block, ejecting and loading mechanisms, an operating-lever connected to said  
80 breech-block and adapted in its vibration to raise and lower the same and to operate said mechanisms, and a spring acting against said lever and pressing the same in the direction  
85 in which it moves to lower the breech-block and eject the empty shell, whereby the loading and firing are performed manually and the spring is thereby compressed, and the opening of the breech and ejection of the shell  
90 are performed by the reaction of the spring.

12. The combination of a vertically swinging breech-block, ejecting and loading mechanisms, an operating-lever for actuating them, a projecting arm on said lever, a transfer-  
95 lever bearing against said arm, and a spring bearing against said transfer-lever and acting through the latter to press said operating-lever in the direction in which it moves to open the breech and eject the empty shell, whereby  
100 these operations are performed automatically.

13. The combination of a swinging breech-block, a hammer, and an operating-lever with a spring for pressing forward said lever, and a transfer-lever interposed between said spring  
105 and lever, and in its descent acting against said hammer to partially retract the same and thereby release the firing-pin.

14. The combination of a vertically swinging breech-block, an operating-lever for raising  
110 and lowering it, the one part having a stud and the other part a stepped slot engaging said stud, whereby as the lever is vibrated forward the breech-block is lowered, and as the lever is vibrated backward the breech-block is  
115 raised to the loading position, held there a moment, and finally raised to the firing position, and a prop for locking the block in the firing position, moved beneath it by said lever.

15. The combination of a vertically swinging breech-block having a projecting stud, an  
120 operating-lever carrying a cam-plate having a stepped slot engaging said stud, and serving to transmit motion to the breech-block, and a prop-piece carried by said lever and entering  
125 beneath the breech-block when the latter is finally raised.

16. The combination of the swinging breech-block, the operating-lever connected to it in  
130 such manner as to lower it when vibrated forward, and when vibrated backward to raise it to the loading position, to hold it there a moment, and finally to raise it to the firing position, the shell-ejector constructed to be



moved to extract the empty shell by the forward vibration of said lever, the loading mechanism consisting of a cartridge-pusher constructed to move forward and back, and connected to said operating-lever in such manner as to be moved forward thereby during the backward vibration of the lever and while the breech-block is held in the loading position, the hammer, and a duplex spring the pressure of which in one direction is transmitted to the hammer, and that in the opposite direction is transmitted to said operating-lever and acts to vibrate the same forward, and thereby to open the breech and eject the empty shell.

17. The combination, with a movable breech-block and its operating-lever, of an ejector-lever and a purchase-lever fulcrumed at one end, arranged to bear near its fulcrum against said ejector-lever, and with its free end in the path traversed by said operating-lever in the movement of the latter by which the breech is opened, whereby in said movement of the operating-lever the purchase-lever is depressed and in turn acts upon said ejector and starts the ejecting movement under considerable purchase.

18. The combination of the operating-lever, an elbow-lever ejector, a purchase-lever fulcrumed at one end, bearing near its fulcrum against said ejector-lever, and with its free end in the path traversed by said operating-lever in the movement of the latter by which the breech-block is thrown down, whereby upon such movement the purchase-lever is depressed and in turn acts upon the ejector, thereby moving the same forcibly and loosening the shell, and a vertically-swinging breech-block deriving motion from the operating-lever and arranged in descending to strike said bell-lever ejector and throw it over, thereby throwing out the loosened shell.

19. The combination of a vertically-swinging breech-block having a cam-surface on its side, the magazine-tube, the feed-spring therein, and a feed-arrester at the outlet from said magazine-tube capable of lateral movement into and out of the way of the emerging cartridge and operated by the cam-surface on the breech-block.

20. The combination of a swinging breech-

block having a cam-surface on its side, the magazine-tube, the feed-spring therein, a spring-pressed feed-arrester consisting of an arm arranged within the lock-case at the side thereof having a projection at the outlet from the magazine-tube for intercepting the issuing cartridge and adapted to be displaced laterally by the cam-surface on the breech-block when the latter is raised, thereby freeing the cartridges, and to be released by said cam-surface when the breech-block is lowered, and thereby permitted to engage the cartridge.

21. The combination of a swinging breech-block, a toggle-jointed cartridge-pusher, and the operating-lever having an arm for actuating the toggle, with a safety device consisting of a lever or stop borne by the lock-case and having a projection which in its movement to one position comes between said arm and toggle in order to lock the mechanism, and on its movement to the opposite position passes out of the way thereof.

22. The combination, with a fire arm having an open-topped mortise in the breech extending vertically downward, and a vertically-moving breech-block in said mortise, of a dust-cover hinged to the top of the lock-case and adapted to be turned back to cover the breech-block mortise when the arm is not in use and to be turned forward upon the barrel when it is in use.

23. The combination, with a fire arm having an open-topped mortise in the breech extending vertically downward, and a vertically-moving breech-block in said mortise, of a dust-cover hinged to the top of the lock-case and adapted to be turned back to cover the breech-block mortise when the arm is not in use and to be turned forward upon the barrel when it is in use, and a sight hinged to the rear side of said dust-cover and adapted to enter said mortise and be housed therein beneath said cover when the latter is turned back.

This specification signed by me this 13th day of July, 1886.

PAUL MAUSER.

Witnesses:

ALFRED KANNA,  
T. TERWECK.